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April 9, 2019

Ms. Sue Murphy
State of North Carolina
Department of Environmental Quality
Division of Waste Management, Superfund Section
1646 Mail Service Center
Raleigh, NC 27699-1646

RE: Risk Management Plan
Winter Park Cleaners
1437 South College Road
Wilmington, New Hanover County, NC
DSCA Site ID: DC650013

Dear Ms. Murphey:

ATC Associates of North Carolina, P.C. (ATC) is pleased to submit the enclosed Risk Management Plan (RMP) for the above referenced site. The results of the risk assessment indicated that there are risks that exceed applicable target levels on the source property. These risks will be managed using site-specific land-use conditions that have been selected as part of the risk assessment evaluation and which require a RMP. The primary purpose of this RMP is to ensure that the assumptions made during the risk assessment remain valid in the future. Based on the documentation outlined in this report, ATC recommends issuance of a No Further Action letter for the site with the implementation of Land Use Controls.

If you have questions or require additional information, please do not hesitate to contact Meghan Greiner at (919) 871-0999.

Sincerely,
ATC Associates of North Carolina, P.C.

Meghan E. Greiner, P.E.
Program Manager

**RISK MANAGEMENT PLAN
WINTER PARK CLEANERS
1437 SOUTH COLLEGE ROAD
WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA
DSCA SITE IDENTIFICATION NO. DC650013
APRIL 9, 2019**

Risk Management Plan
Winter Park Cleaners
1437 South College Road
Wilmington, New Hanover County, NC
DSCA Site Identification No. DC650013

Prepared By:

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Submitted To:

**North Carolina Department of
Environmental Quality
Division of Waste Management
Superfund Section – DSCA Program**
1646 Mail Service Center
Raleigh, NC 27699-1646

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April 9, 2019

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Appendix B	GSI Mann-Kendall Toolkit Documentation
Appendix C	Level 1 Ecological Risk Assessment Checklists
Appendix D	Notice of Dry-Cleaning Solvent Remediation for Source Property
Appendix E	Example Annual Certification of Land-Use Restrictions
Appendix F	Example Documents Announcing the Public Comment Period

1.0 INTRODUCTION

ATC Associates of North Carolina, P.C. (ATC) has prepared this Risk Management Plan (RMP) for the former Winter Park Cleaners site (DSCA Site #DC650013) in Wilmington, New Hanover County, North Carolina, under contract to the North Carolina Dry-Cleaning Solvent Cleanup Act (DSCA) Program. This RMP is intended to comply with the requirements of the DSCA Program (N.C.G.S. 143-215.104A *et seqs*) and promulgated rules, as well as the DSCA Program's May 2015 Risk Assessment Guidance (RAG). The former Winter Park Cleaners site (herein referred to as the "site") references only the source property.

The site is currently developed with a Trader Joe's grocery store and parking lot with a primary address of 1437 South College Road (PIN R06107-002-006-000), owned by Cole TR Wilmington NC, LLC. Maps showing the site location and the site in relation to the nearest downgradient surface water body are included as *Figures 1* and *2*, respectively.

2.0 OBJECTIVES OF RISK MANAGEMENT PLAN (RMP)

ATC completed assessment activities at the site which indicated the following areas of impact attributed to releases at the former Winter Park Cleaners site:

- Concentrations of petroleum compounds above unrestricted use levels in soil at the site.
- Concentrations of petroleum compounds above Title 15A NCAC 2L .0202 Groundwater Standards (2L Standards) in groundwater at the site.

ATC completed a risk assessment for the site on November 13, 2018. The results of the risk assessment indicated that target risk levels were exceeded. However, the risks will be managed based on site-specific land-use conditions that have been selected as part of the evaluation and which require a RMP. Thus, the objective of the RMP is to ensure that those site-specific land-use conditions remain valid in the future.

3.0 SUMMARY OF APPROVED RISK ASSESSMENT REPORT

Based on soil and groundwater impacts above unrestricted use levels, ATC completed a risk assessment for the site in November 2018. This section summarizes the final risk assessment findings, which resulted in the recommendation for no further action status with land-use controls placed on the property.

The first step in the risk assessment process consisted of development of an exposure model. One exposure unit, Exposure Unit #1, was assigned and encompasses the entire source property. The boundary of the exposure unit is depicted on *Figure 1*. The protection of groundwater use and protection of surface water pathways were also evaluated, as further discussed in the following sections.

To provide site background regarding the data used for the risk assessment, analytical data for soil, groundwater, and soil gas are depicted on *Figures 3 through 5*, respectively. The DSCA Program's Analytical Data Tables that summarize the site chronology and analytical data are included in *Appendix A*.

3.1 Exposure Unit #1

Exposure Unit #1 contains the source property where the former Winter Park Cleaners was located. This parcel is developed with a Trader Joe's grocery store and parking lot owned by Cole TR Wilmington NC, LLC. Complete pathways identified for this exposure unit include the indoor inhalation pathway for a current or future resident or non-residential worker and the surficial soil combined pathways for a current or future resident, non-residential worker, or construction worker.

Indoor Inhalation Pathway

- The current indoor inhalation pathway was evaluated for using near slab soil gas samples collected by the current building. Numerous compounds were detected in the near slab samples; however, only compounds which were previously detected in soil and/or

groundwater (petroleum compounds), tetrachloroethylene (PCE), and PCE daughter-products were assessed for in this risk assessment. Based on the Interstate Technology Regulatory Council (ITRC) Petroleum Vapor Intrusion (PVI) Guidance, petroleum compounds detected in soil or groundwater greater than a separation distance of 30 feet laterally and 5 feet vertically from a structure are negligible due to petroleum's ability to readily degrade in aerobic environments. The minimum depth to groundwater at the site was measured at 5.25 feet below ground surface and impacted soil is located greater than 30 feet from the onsite building. Therefore, the current vapor intrusion risk from petroleum compounds are considered negligible and were not used for current risk evaluations. Only two chlorinated solvent compounds were detected in the soil gas, PCE and vinyl chloride, both of which did not exceed risk levels. The results of the risk assessment using these data indicated no exceedances of acceptable risk levels for a resident or a non-residential worker for current risks.

- For evaluation of future risks, ATC reviewed soil gas data collected in two separate areas of the site: near slab data collected by the current building and sub-pavement data collected by the former dry-cleaner (which is currently a parking lot). The majority of compounds detected in soil gas are related to a petroleum release. The two separate areas of the vapor intrusion assessment exceed the separation distances outlined in the ITRC PVI Guidance. As a result, the two areas were assessed separately. The data indicates there are greater risks associated with the sub-pavement samples near the former dry-cleaner. Therefore, the indoor air pathway for future risk was evaluated using sub-pavement soil gas data. The results of the risk assessment using these data indicated no exceedances of acceptable risk levels for a resident or a non-residential worker for future risks.

Surficial Soil Combined Pathway

- For the current surficial soil combined pathway for a resident or non-residential worker and construction worker, the samples with the highest concentrations that were collected above the historical high water table was used to evaluate risk. The results of the risk assessment indicated no exceedances of acceptable risk levels for a resident, non-residential worker, or construction worker.

- For the future surficial soil combined pathway for a resident or non-residential worker and construction worker, the samples with the highest concentrations that were collected above the historical high water table was used to evaluate risk. The results of the risk assessment indicated no exceedances of acceptable risk levels for a resident, non-residential worker, or construction worker.

3.2 Protection of Groundwater Use Pathway

The protection of groundwater use pathway was modeled assuming a point of exposure (POE) at the nearest property boundary downgradient of the plume on which impacts have not been observed, located approximately 310 feet southeast of the source area and shown on *Figure 1*. Modeling under this scenario assumes that a groundwater use controls will be implemented for the site property.

Modeling results for evaluating the protection of groundwater use at the POE indicated exceedances of Site Specific Target Levels (SSTLs) for source soil and groundwater. Groundwater monitoring data indicate that the plume is stable and has not migrated as far as the modeling projects. Plume stability documentation is included in *Appendix B*. The groundwater monitoring data collected at the site are considered more relevant and applicable for making risk management decisions. Regarding exceedances for source soil, if site conditions do not change the current plume stability is not expected to change and therefore the groundwater monitoring data is considered more relevant than the modeling results. However, some of the modeling inputs are conservative parameters, specifically rate of infiltration, that may not be representative of the current land cover (i.e., asphalt, concrete). Such land cover would reasonably minimize infiltration in the source area and likely affect the documented plume migration at the site. However, because rate of infiltration is a significant variable in the leaching of contamination from soil and subsequent migration in groundwater, it is reasonable that plume expansion could occur as indicated by the model in the event that site conditions were altered such that infiltration rates increased in area of source contamination. Therefore, it is recommended that land-use controls be utilized to maintain current infiltration conditions in the areas of impacted soils exceeding the SSTL. This area is depicted on *Figure 6*. Note that some areas exceeding the SSTL currently have

no land cover. The surface cover restriction area only applies to areas that are currently covered by pavement or buildings since the unpaved areas where contamination is observed are assumed to be at equilibrium with the subsurface such that chemical migration to the POE will not occur in the future.

3.3 Protection of Surface Water Pathway

The protection of surface water pathway was modeled assuming a POE at downgradient retention pond located approximately 3,230 feet southeast of the source area and shown on *Figure 2*. Modeling results for the protection of surface water evaluation indicated no exceedances of SSTLs for source groundwater or source soil. The modeling results are corroborated by the plume stability determination and indicate the plume is unlikely to impact the POE. Based on these data, the protection of surface water pathway is not considered a significant concern.

3.5 Risk Assessment Conclusions

The risk assessment concluded that the risks associated with the contamination could be managed through implementation of land-use controls for the site, as detailed in this RMP. Land-use controls for the site are discussed in Section 6.0.

4.0 RAP COMPONENTS

4.1 Summary of Prior Assessment and Interim Actions

The site is located at 1437 South College Road in Wilmington, North Carolina in an area that is primarily characterized as regional business and office & institutional. The property is accessed from the east by South 47th Street, from the south by Oleander Drive, and from the west by South College Road. The area topography slopes downward towards the southeast. A used auto sales retail facility also operated at the source property for the same time period. A former filling station (name unknown) was located west of the source property across South College Road, a former

brake shop (NCDEQ UST Incident #20909) is located south across Oleander Drive, and former Coastal Dry Cleaners (DC650003) is located east across South 47th Street.

The site is an approximate 1.49-acre parcel developed with a Trader Joe's grocery store and associated parking lot. The primary address is 1437 South College Road and is owned by Cole TR Wilmington NC, LLC. Available historical information indicated that dry-cleaning operations were conducted on the source property from at least 1951 until at least 1964. Detailed information is not available regarding the facility and associated dry-cleaning operations. Evidence of subsurface contamination was first identified during a limited site investigation. According to the Limited Site Investigation Report submitted on February 15, 2012, petroleum impacted soil and groundwater was identified in the vicinity of the former dry-cleaner.

Terracon completed a Phase I Environmental Assessment (ESA) for the site on December 30, 2011. The ESA identified a former dry-cleaning facility on the western portion of the property and a used auto sales facility on the southwestern portion of the property. Information regarding dry-cleaning practices were not available. Based on the results of the ESA, Terracon completed a Limited Site Investigation on February 15, 2012. During the investigation, nine soil samples and four groundwater grab samples were collected. Petroleum compounds were detected in one soil sample above the Protection of Groundwater Inactive Hazardous Sites Branch (IHSB) Preliminary Soil Remediation Goals (PSRGs); however, the sample was collected below the water table and is not indicative of soil impacts at the site. Petroleum compounds were also detected in three groundwater samples above the 2L Standard.

AMEC Environment & Infrastructure, Inc. conducted a Prioritization Assessment documenting the advancement and sampling of sixteen soil borings and the collection of eleven groundwater grab samples. Additionally, two near-slab soil gas samples were collected along the eastern edge and western edge of the Trader Joe's building. The soil results detected naphthalene and 2-methylnaphthalene above the Protection of Groundwater IHSB PRSGs in one soil sample. The concentration of naphthalene in the soil sample also exceeded the Residential Health Based PSRG. Naphthalene was detected above 2L Standard in one groundwater sample. Thirty-five compounds were detected in the soil gas samples; however, none of the concentrations exceeded the Division

of Waste Management (DWM) Non-Residential Soil Gas Screening Levels (SGSLs). The results were submitted to the DSCA Program on June 17, 2013.

Permanent monitoring wells MW-1 through MW-5 were installed and sampled in October 2013. Laboratory results indicated petroleum compounds above 2L Standards in MW-3. Geotechnical samples were also collected to determine soil characteristics and slug testing was performed to determine hydrology.

Plume stability monitoring was performed in September 2014, December 2014, and March 2015. Laboratory results indicated petroleum compounds above 2L Standards in MW-1 and MW-3. Report forms documenting plume stability were submitted to the DSCA Program on April 6, 2015. Laboratory results indicated groundwater impacts were confined to the site property, delineated, stable and decreasing.

Three sub-pavement soil gas samples were collected in the area of the former dry-cleaner in July 2018. The samples did not indicate any compounds above Non-Residential SGSLs. A Vapor intrusion Letter Report was submitted to the DSCA Program on October 10, 2018.

ATC compiled the recent and historical data for the site and prepared a risk assessment in November 2018. As discussed in detail in Section 3.0, the risk assessment concluded that risks associated with the contamination could be managed through implementation of land-use controls for the site, as detailed in this RMP. Therefore, the risk assessment recommended risk-based closure for the site.

4.2 Remedial Action

According to the DSCA Program's RAG, no remedial action is necessary if four site conditions are met. Each of these conditions and their applicability to the subject site are addressed below.

Condition 1: The dissolved plume is stable or decreasing.

Periodic groundwater monitoring has been conducted at the site since from 2012 to 2015. Constituents of concern (COCs) detected at concentrations above 2L Standards include benzene, ethylbenzene, naphthalene, total xylenes, isopropylbenzene (cumene), n-propylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-methylnaphthalene, 2-methylnaphthalene, C₅-C₈ aliphatics, C₉-C₁₂ aliphatics, C₉-C₁₀ aromatics, C₉-C₁₈ aliphatics, and C₉-C₁₁ aromatics. The DWM evaluates sites using specific COCs rather than carbon fractions due to the potential to double count risk. Therefore, C₅-C₈ aliphatics, C₉-C₁₂ aliphatics, C₉-C₁₀ aromatics, C₉-C₁₈ aliphatics, and C₉-C₁₁ aromatics were not included in plume stability monitoring.

ATC prepared concentration versus time graphs for each monitoring well showing significant detections of the aforementioned compounds using the GSI Mann-Kendall Toolkit for Constituent Trend Analysis (Mann-Kendall). The concentration versus time graphs show that COCs detected at the site above 2L Standards are stable or show “no trend” for the monitoring wells evaluated. Where "no trend" was indicated, ATC reviewed the graphs manually and concluded that trends appeared stable or decreasing. Furthermore, COCs which indicated “no trend” have not been identified in the most downgradient well, MW-5. Based on these data, ATC concludes that the dissolved plume associated with the site is stable or decreasing. Documentation of the plume stability evaluation, including a table showing historical groundwater analytical data and the Mann-Kendall Analyses, are included in *Appendices A* and *B*, respectively. Monitoring well locations and the extent of the groundwater plume are shown on *Figure 4*.

Condition 2: The maximum concentration within the exposure domain for every complete exposure pathway of any COC is less than ten times the representative concentration of that COC.

ATC evaluated the representative concentrations calculated during the risk assessment and found that this condition has been met for all COCs and exposure pathways.

Condition 3: Adequate assurance is provided that the land-use assumptions used in the DSCA Program's Risk-Based Corrective Action (RBCA) process are not violated for current or future conditions.

Land-use controls will be implemented for the site to ensure the assumptions made in the risk assessment remain valid in the future. Refer to Section 6.0 for additional details regarding the proposed land-use controls for the site.

Condition 4: There are no ecological concerns at the site.

ATC completed a Level 1 Ecological Risk Assessment for the site in accordance with the DSCA Program's RBCA guidance. The results of the evaluation indicate that the release does not pose an unacceptable ecological risk. The completed Level 1 Ecological Risk Assessment Checklists A and B and associated attachments are included in *Appendix C*.

The site's compliance with the four above referenced conditions confirms that the contaminant concentrations are not likely to pose an unacceptable risk either at present or in the future. The plume is expected to naturally attenuate over time and the appropriate remedial action is to implement appropriate land-use controls on the properties where soil and/or groundwater contamination associated with the site is present.

5.0 DATA COLLECTED DURING RMP IMPLEMENTATION

No further sampling or other data collection activities are proposed for the site, as long as the assumptions detailed in each Notice of Dry-Cleaning Solvent Remediation (NDCSR) remain valid. As such, this section is not applicable.

6.0 LAND-USE CONTROLS

As discussed in detail in Section 3.0, the recommendation for closure in the risk assessment for the site was based on the following land-use conditions:

- No activities may occur that remove or disturb soil within the area of impacted soil designated on **Figure 6** on the source property unless approved in writing in advance by NCDEQ.
- No activities that cause or create an increase in infiltration (for example, removal or demolition of materials such as asphalt, concrete, buildings, or other structures that by their use and nature minimize infiltration of rain or water runoff into potentially contaminated soil) may occur in the area designated on **Figure 6**.
- Groundwater will not be utilized on the source property.

Institutional controls will be implemented to ensure that land-use conditions are maintained and monitored until the land-use controls are no longer required for the site. A NDCSR was prepared for the source property to comply with the land-use control requirement. The NDCSR for the source property is included in **Appendix D**. Refer to the NDCSR for the specific language to be incorporated to address each of the risk assessment assumptions detailed above. A plat showing the locations and types of dry-cleaning solvent contamination is included as an exhibit to the NDCSR. The locations of dry-cleaning solvent contamination are where contaminants have been detected above unrestricted use standards.

7.0 LONG-TERM STEWARDSHIP PLAN

The NDCSR for the source property contains a clause which requires that the owner of the property submit notarized “Annual Certification of Land-Use Restrictions” to NCDEQ on an annual basis certifying that the NDCSR remains recorded with the Register of Deeds and that the land-use restrictions (LURs) are being complied with. An example of such a certification is included in **Appendix E**.

8.0 RMP IMPLEMENTATION SCHEDULE

Since the contamination is stable and confined to the source, no additional site remediation activities are required to implement the RMP. A 30-day public comment period will be held to allow the community an opportunity to comment on the proposed strategy. *Appendix F* includes example documents used to announce the public comment period in the local newspaper and to inform local officials, nearby property owners, and interested parties. As such, upon completion of the public comment period and final approval of the RMP, the NDCSR will be filed with the New Hanover County Register of Deeds and will complete the RMP schedule.

9.0 CRITERIA FOR DEMONSTRATING RMP SUCCESS

The RMP will be successfully implemented once the NDCSR has been executed and recorded with the New Hanover County Register of Deeds. The NDCSR may, at the request of the owner of the property, be canceled by NCDEQ after the risk to public health and the environment associated with the dry-cleaning solvent contamination and any other contaminants included in the dry-cleaning solvent assessment and remediation agreement has been eliminated as a result of remediation of the property. If NCDEQ is notified of a change in site conditions, per the notification requirements detailed in the NDCSR, the RMP will be reviewed to determine if the site conditions have impacted the requirements set forth in each NDCSR and if changes are required. Enforcement of the RMP will be maintained through receipt of the “Annual Land-Use Restrictions Certification” from the source property owner as part of the NDCSR requirements.

10.0 CONTINGENCY PLAN IF RMP FAILS

As discussed above, unless the DSCA Program is notified of a change in land-use conditions at the site, per the notification requirements detailed in this plan, the RMP will remain in effect until the RMP has met its objectives and is considered a success. Pursuant to N.C.G.S. 143-215.104K, if any of the LURs set out in the NDCSR are violated, the owner of the property at the time the LURs are violated, the owner’s successors and assigns, and the owner’s agents who direct or

contract for alteration of the site in violation of the LURs, shall be held liable for the remediation of all contaminants to unrestricted use standards.

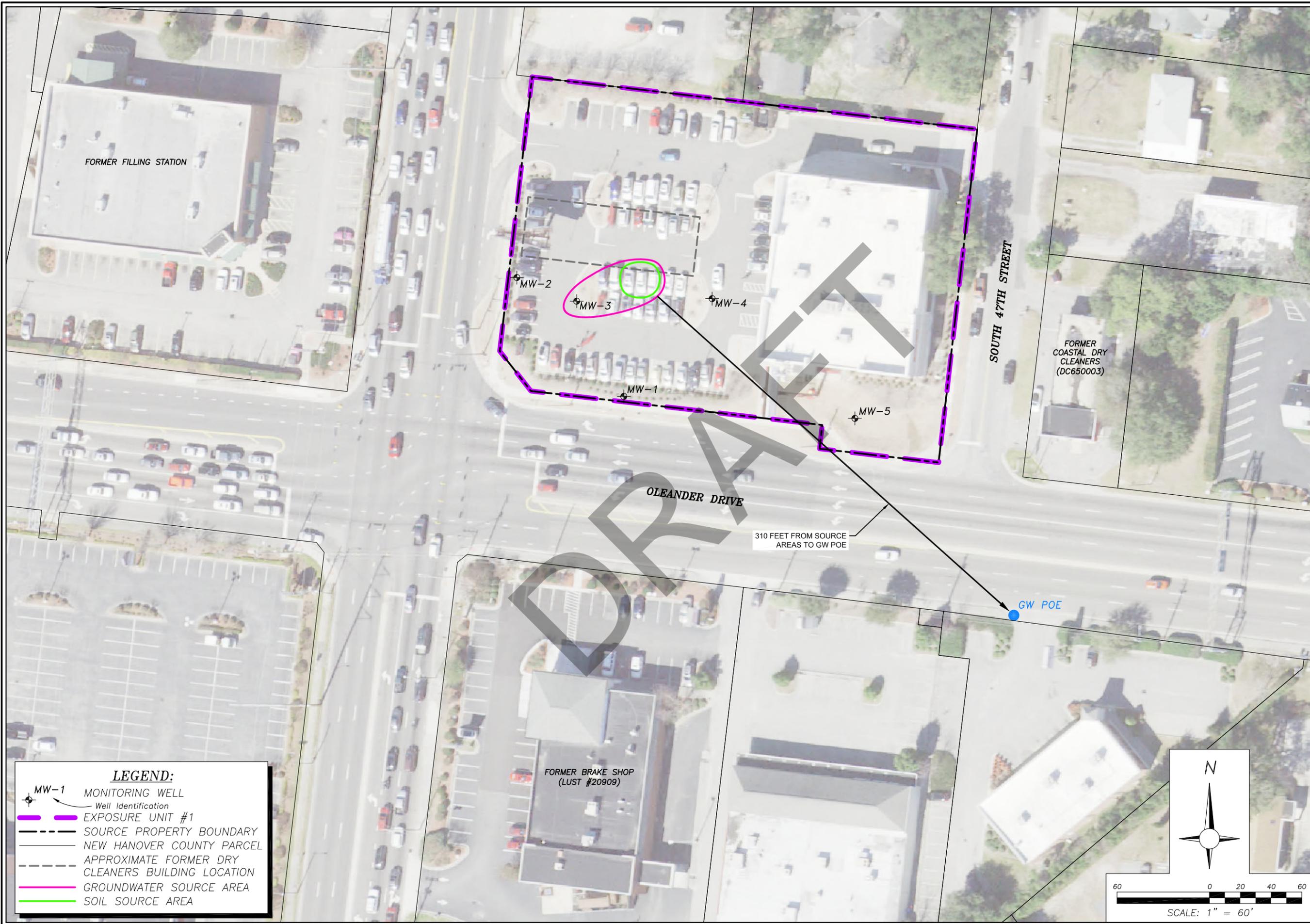
11.0 CONCLUSIONS AND RECOMMENDATIONS

ATC has prepared this RMP for the former Winter Park Cleaners site on behalf of the DSCA Program. The results of a risk assessment indicated that contaminant concentrations at the site do not pose an unacceptable risk with appropriate land-use controls applied to the source property. The contaminant plume associated with the site appears stable or decreasing. This RMP specifies that the NDCSR requirements provide notification that land-use conditions observed during the risk assessment evaluation remain valid in the future. Based on the documentation contained in this report, ATC recommends issuance of a “No Further Action” letter.

DRAFT

DRAFT

FIGURES



LEGEND:

- MW-1 MONITORING WELL
- Well Identification
- EXPOSURE UNIT #1
- SOURCE PROPERTY BOUNDARY
- NEW HANOVER COUNTY PARCEL
- APPROXIMATE FORMER DRY CLEANERS BUILDING LOCATION
- GROUNDWATER SOURCE AREA
- SOIL SOURCE AREA

60 0 20 40 60

SCALE: 1" = 60'

N

NOTES:
 1. Features shown are not an authoritative location, nor are they presented to a stated accuracy.
 2. GW POE = Groundwater Point-of-Exposure.

COORDINATE SYSTEM:
 NAD 1983 NORTH CAROLINA STATE PLANE FIPS 3200, US SURVEY FEET

TITLE
FIGURE 1
EXPOSURE UNIT MAP
 WINTER PARK CLEANERS
 1437 SOUTH COLLEGE ROAD
 WILMINGTON, NORTH CAROLINA

CAD FILE
 SEE LOWER LEFT

DSCA ID
 DC650013

PREP. BY
 DH

REV. BY
 AW

SCALE
 AS SHOWN

DATE
 11/18

PROJECT NO.
 DC650013



ATC Associates of North Carolina, P.C.
 Raleigh, North Carolina, 27604

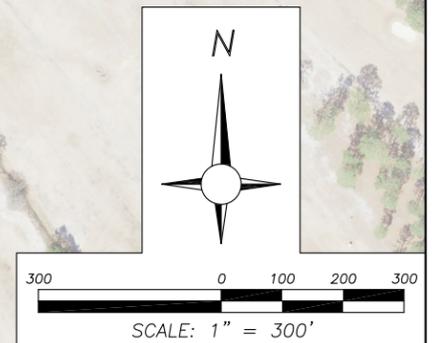
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H:\2018\OTHER OFFICES\NORTH CAROLINA\NCDOT-DWM-DSCA PROGRAM\WINTER PARK CLEANERS WILMINGTON\DC650013-EXPOSURE SW.DWG, 2



LEGEND:

- EXPOSURE UNIT #1
- SOURCE PROPERTY BOUNDARY
- NEW HANOVER COUNTY PARCEL
- APPROXIMATE FORMER DRY CLEANERS BUILDING LOCATION
- GROUNDWATER SOURCE AREA
- SOIL SOURCE AREA



NOTES:

1. Features shown are not an authoritative location, nor are they presented to a stated accuracy.
2. GW POE = Groundwater Point-of-Exposure.
3. SW POE = Surface water Point-of-Exposure.

TITLE **FIGURE 2**
 EXPOSURE UNIT MAP AND SURFACE WATER POINT-OF-EXPOSURE
 WINTER PARK CLEANERS
 1437 SOUTH COLLEGE ROAD
 WILMINGTON, NORTH CAROLINA



ATC Associates of North Carolina, P.C.
 Raleigh, North Carolina, 27604

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COORDINATE SYSTEM:
 NAD 1983 NORTH CAROLINA STATE PLANE FIPS 3200, US
 SURVEY FEET

CAD FILE
 SEE LOWER LEFT

DSCA ID
 DC650013

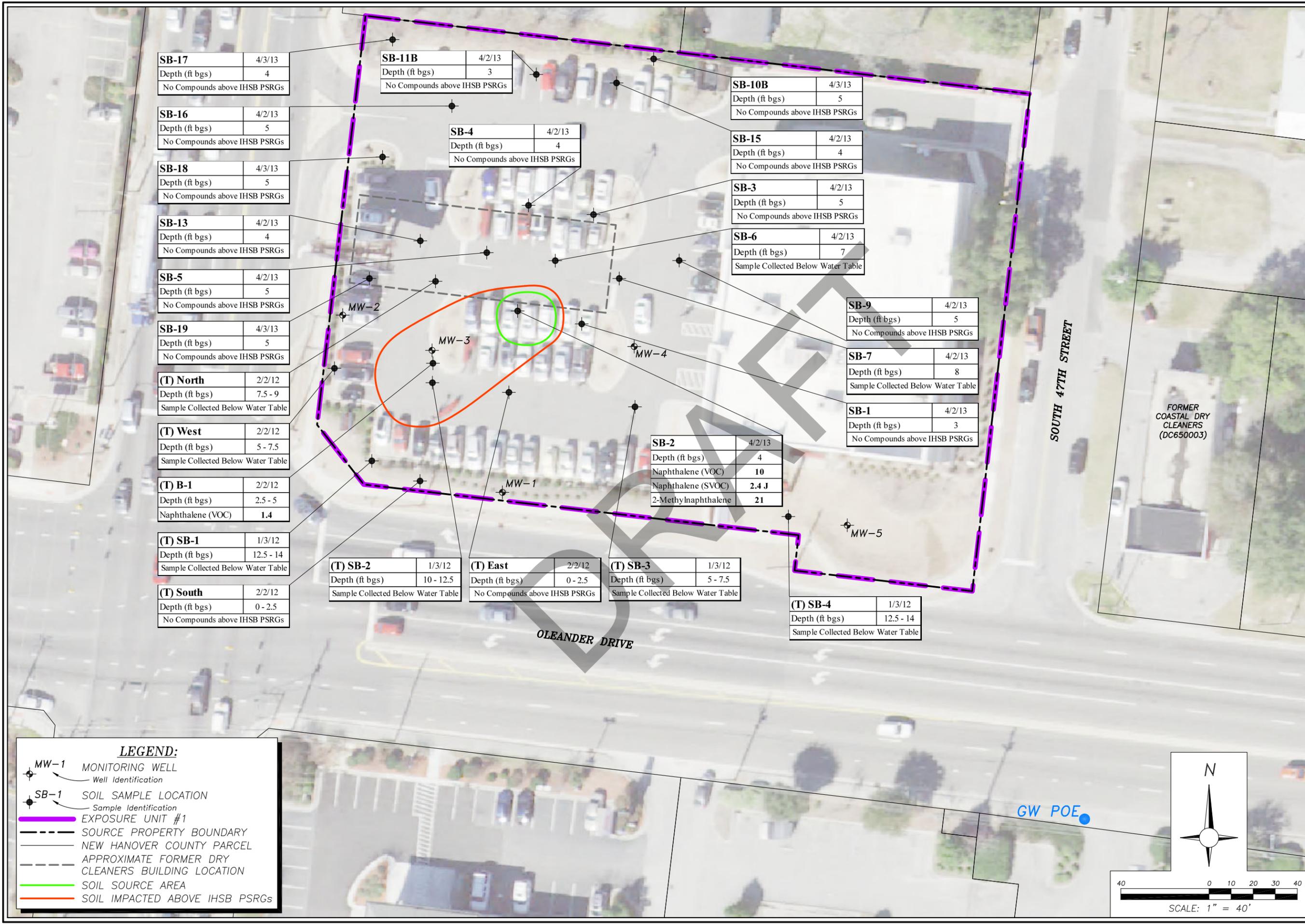
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SCALE
 AS SHOWN

DATE
 11/18

PROJECT NO.
 DC650013



SB-17	4/3/13
Depth (ft bgs)	4
No Compounds above IHSB PSRGs	
SB-16	4/2/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
SB-18	4/3/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
SB-13	4/2/13
Depth (ft bgs)	4
No Compounds above IHSB PSRGs	
SB-5	4/2/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
SB-19	4/3/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
(T) North	2/2/12
Depth (ft bgs)	7.5 - 9
Sample Collected Below Water Table	
(T) West	2/2/12
Depth (ft bgs)	5 - 7.5
Sample Collected Below Water Table	
(T) B-1	2/2/12
Depth (ft bgs)	2.5 - 5
Naphthalene (VOC)	1.4
(T) SB-1	1/3/12
Depth (ft bgs)	12.5 - 14
Sample Collected Below Water Table	
(T) South	2/2/12
Depth (ft bgs)	0 - 2.5
No Compounds above IHSB PSRGs	

SB-11B	4/2/13
Depth (ft bgs)	3
No Compounds above IHSB PSRGs	
SB-4	4/2/13
Depth (ft bgs)	4
No Compounds above IHSB PSRGs	
SB-2	4/2/13
Depth (ft bgs)	4
Naphthalene (VOC)	10
Naphthalene (SVOC)	2.4 J
2-Methylnaphthalene	21
(T) SB-2	1/3/12
Depth (ft bgs)	10 - 12.5
Sample Collected Below Water Table	
(T) East	2/2/12
Depth (ft bgs)	0 - 2.5
No Compounds above IHSB PSRGs	
(T) SB-3	1/3/12
Depth (ft bgs)	5 - 7.5
Sample Collected Below Water Table	

SB-10B	4/3/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
SB-15	4/2/13
Depth (ft bgs)	4
No Compounds above IHSB PSRGs	
SB-3	4/2/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
SB-6	4/2/13
Depth (ft bgs)	7
Sample Collected Below Water Table	
SB-9	4/2/13
Depth (ft bgs)	5
No Compounds above IHSB PSRGs	
SB-7	4/2/13
Depth (ft bgs)	8
Sample Collected Below Water Table	
SB-1	4/2/13
Depth (ft bgs)	3
No Compounds above IHSB PSRGs	
(T) SB-4	1/3/12
Depth (ft bgs)	12.5 - 14
Sample Collected Below Water Table	

LEGEND:

- MW-1 MONITORING WELL
Well Identification
- SB-1 SOIL SAMPLE LOCATION
Sample Identification
- EXPOSURE UNIT #1
- SOURCE PROPERTY BOUNDARY
- NEW HANOVER COUNTY PARCEL
- APPROXIMATE FORMER DRY CLEANERS BUILDING LOCATION
- SOIL SOURCE AREA
- SOIL IMPACTED ABOVE IHSB PSRGs

GW POE

SCALE: 1" = 40'

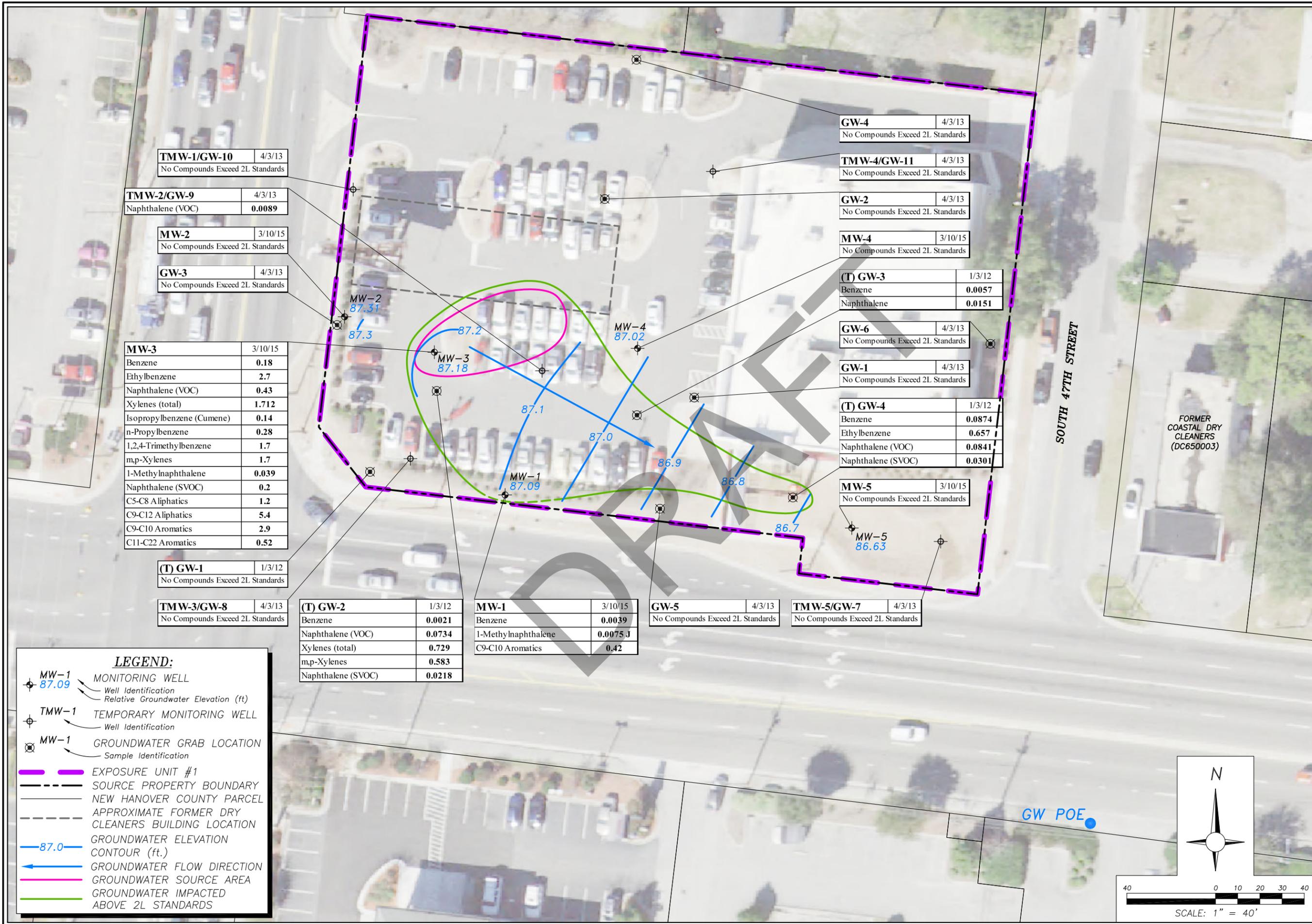
ATC
ATC Associates of North Carolina, P.C.
Raleigh, North Carolina, 27604
(919) 871-0999

FIGURE 3
SOIL QUALITY MAP
WINTER PARK CLEANERS
1437 SOUTH COLLEGE ROAD
WILMINGTON, NORTH CAROLINA

CAD FILE: SEE LOWER LEFT
DSCA ID: DC650013
PREP. BY: DH
REV. BY: AW
DATE: 11/18
SCALE: AS SHOWN
PROJECT NO.: DC650013

NOTES:
1. Features shown are not an authoritative location, nor are they presented to a stated accuracy.
2. GW POE = Groundwater Point-of-Entry.
3. ft bgs = Feet below ground surface.
4. All concentrations presented in milligrams per kilogram (mg/kg).
5. Only compounds that exceeded the lowest Inactive Hazardous Sites Branch (IHSB) Preliminary Soil Remediation Goals (PSRGs) are shown on this figure.
6. Only data for soil samples collected above the water table are shown on the figure.
7. Sample ID's beginning with (T) were collected by Terracon.

COORDINATE SYSTEM: NAD 1983 NORTH CAROLINA STATE PLANE FIPS 3200, US SURVEY FEET



TMW-1/GW-10	4/3/13
No Compounds Exceed 2L Standards	

TMW-2/GW-9	4/3/13
Naphthalene (VOC)	0.0089

MW-2	3/10/15
No Compounds Exceed 2L Standards	

GW-3	4/3/13
No Compounds Exceed 2L Standards	

MW-3	3/10/15
Benzene	0.18
Ethylbenzene	2.7
Naphthalene (VOC)	0.43
Xylenes (total)	1.712
Isopropylbenzene (Cumene)	0.14
n-Propylbenzene	0.28
1,2,4-Trimethylbenzene	1.7
m,p-Xylenes	1.7
1-Methylnaphthalene	0.039
Naphthalene (SVOC)	0.2
C5-C8 Aliphatics	1.2
C9-C12 Aliphatics	5.4
C9-C10 Aromatics	2.9
C11-C22 Aromatics	0.52

(T) GW-1	1/3/12
No Compounds Exceed 2L Standards	

TMW-3/GW-8	4/3/13
No Compounds Exceed 2L Standards	

(T) GW-2	1/3/12
Benzene	0.0021
Naphthalene (VOC)	0.0734
Xylenes (total)	0.729
m,p-Xylenes	0.583
Naphthalene (SVOC)	0.0218

MW-1	3/10/15
Benzene	0.0039
1-Methylnaphthalene	0.0075
C9-C10 Aromatics	0.42

GW-5	4/3/13
No Compounds Exceed 2L Standards	

TMW-5/GW-7	4/3/13
No Compounds Exceed 2L Standards	

GW-4	4/3/13
No Compounds Exceed 2L Standards	

TMW-4/GW-11	4/3/13
No Compounds Exceed 2L Standards	

GW-2	4/3/13
No Compounds Exceed 2L Standards	

MW-4	3/10/15
No Compounds Exceed 2L Standards	

(T) GW-3	1/3/12
Benzene	0.0057
Naphthalene	0.0151

GW-6	4/3/13
No Compounds Exceed 2L Standards	

GW-1	4/3/13
No Compounds Exceed 2L Standards	

(T) GW-4	1/3/12
Benzene	0.0874
Ethylbenzene	0.657
Naphthalene (VOC)	0.0841
Naphthalene (SVOC)	0.0301

MW-5	3/10/15
No Compounds Exceed 2L Standards	

LEGEND:

- MW-1** 87.09 MONITORING WELL
- Well Identification
- Relative Groundwater Elevation (ft)
- TMW-1** TEMPORARY MONITORING WELL
- Well Identification
- MW-1** GROUNDWATER GRAB LOCATION
- Sample Identification
- EXPOSURE UNIT #1
- SOURCE PROPERTY BOUNDARY
- NEW HANOVER COUNTY PARCEL
- APPROXIMATE FORMER DRY CLEANERS BUILDING LOCATION
- 87.0 GROUNDWATER ELEVATION CONTOUR (ft.)
- GROUNDWATER FLOW DIRECTION
- GROUNDWATER SOURCE AREA
- GROUNDWATER IMPACTED ABOVE 2L STANDARDS

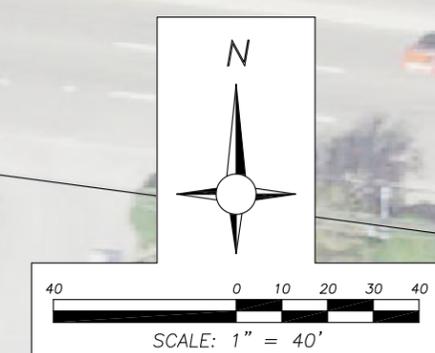


FIGURE 4

GROUNDWATER QUALITY MAP
WINTER PARK CLEANERS
 1437 SOUTH COLLEGE ROAD
 WILMINGTON, NORTH CAROLINA



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 Raleigh, North Carolina, 27604

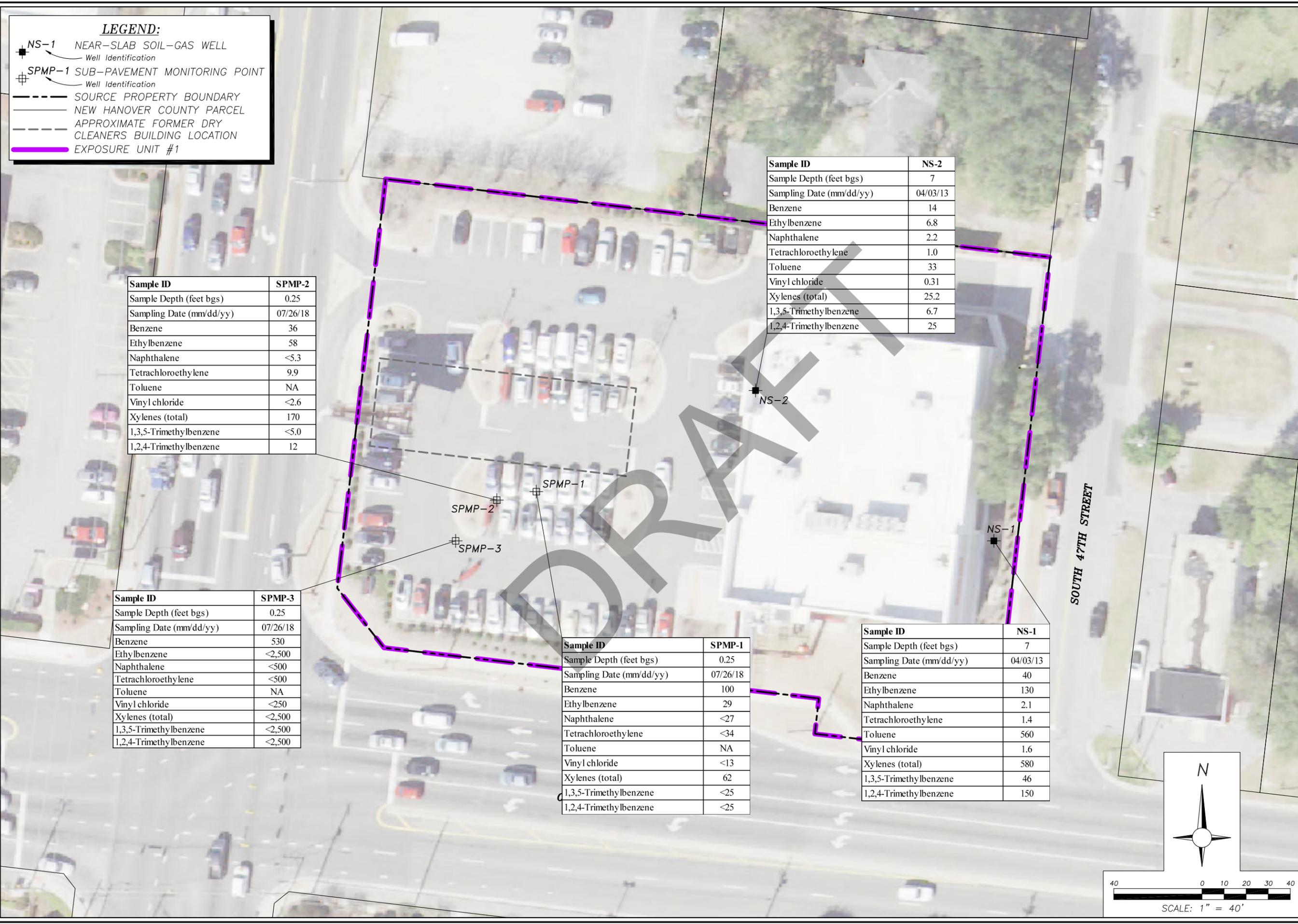
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NOTES:

- Features shown are not an authoritative location, nor are they presented to a stated accuracy.
- GW POE = Groundwater Point-of-Exposure.
- Only compounds exceeding NC 2L Standards are shown on this figure.
- All concentrations presented in milligrams per Liter (mg/L).

COORDINATE SYSTEM:
 NAD 1983 NORTH CAROLINA STATE PLANE FIPS 3200, US SURVEY FEET

CAD FILE	DSCA ID	PREP. BY	REV. BY	SCALE	DATE	PROJECT NO.
SEE LOWER LEFT	DC650013	PH	AW	AS SHOWN	2/18	DC650013



LEGEND:

- NS-1 NEAR-SLAB SOIL-GAS WELL
Well Identification
- ⊕ SPMP-1 SUB-PAVEMENT MONITORING POINT
Well Identification
- - - SOURCE PROPERTY BOUNDARY
- NEW HANOVER COUNTY PARCEL
- - - APPROXIMATE FORMER DRY CLEANERS BUILDING LOCATION
- EXPOSURE UNIT #1

Sample ID	SPMP-2
Sample Depth (feet bgs)	0.25
Sampling Date (mm/dd/yy)	07/26/18
Benzene	36
Ethylbenzene	58
Naphthalene	<5.3
Tetrachloroethylene	9.9
Toluene	NA
Vinyl chloride	<2.6
Xylenes (total)	170
1,3,5-Trimethylbenzene	<5.0
1,2,4-Trimethylbenzene	12

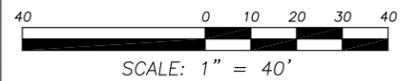
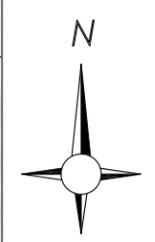
Sample ID	NS-2
Sample Depth (feet bgs)	7
Sampling Date (mm/dd/yy)	04/03/13
Benzene	14
Ethylbenzene	6.8
Naphthalene	2.2
Tetrachloroethylene	1.0
Toluene	33
Vinyl chloride	0.31
Xylenes (total)	25.2
1,3,5-Trimethylbenzene	6.7
1,2,4-Trimethylbenzene	25

Sample ID	SPMP-3
Sample Depth (feet bgs)	0.25
Sampling Date (mm/dd/yy)	07/26/18
Benzene	530
Ethylbenzene	<2,500
Naphthalene	<500
Tetrachloroethylene	<500
Toluene	NA
Vinyl chloride	<250
Xylenes (total)	<2,500
1,3,5-Trimethylbenzene	<2,500
1,2,4-Trimethylbenzene	<2,500

Sample ID	SPMP-1
Sample Depth (feet bgs)	0.25
Sampling Date (mm/dd/yy)	07/26/18
Benzene	100
Ethylbenzene	29
Naphthalene	<27
Tetrachloroethylene	<34
Toluene	NA
Vinyl chloride	<13
Xylenes (total)	62
1,3,5-Trimethylbenzene	<25
1,2,4-Trimethylbenzene	<25

Sample ID	NS-1
Sample Depth (feet bgs)	7
Sampling Date (mm/dd/yy)	04/03/13
Benzene	40
Ethylbenzene	130
Naphthalene	2.1
Tetrachloroethylene	1.4
Toluene	560
Vinyl chloride	1.6
Xylenes (total)	580
1,3,5-Trimethylbenzene	46
1,2,4-Trimethylbenzene	150

SOUTH 47TH STREET



TITLE FIGURE 5

SOIL GAS QUALITY MAP
WINTER PARK CLEANERS
1437 SOUTH COLLEGE ROAD
WILMINGTON, NORTH CAROLINA



ATC Associates of North Carolina, P.C.
Raleigh, North Carolina, 27604

(919) 871-0999

- NOTES:
1. Features shown are not an authoritative location, nor are they presented to a stated accuracy.
 2. Concentrations presented in micrograms per cubic meter (ug/m³).
 3. BOLD values exceed acceptable risk levels.
 4. NA = Not analyzed.
 5. <X = Below laboratory reporting limit of X.

COORDINATE SYSTEM:
NAD 1983 NORTH CAROLINA STATE PLANE FIPS 3200, US SURVEY FEET

CAD FILE
SEE LOWER LEFT

DSCA ID
DC650013

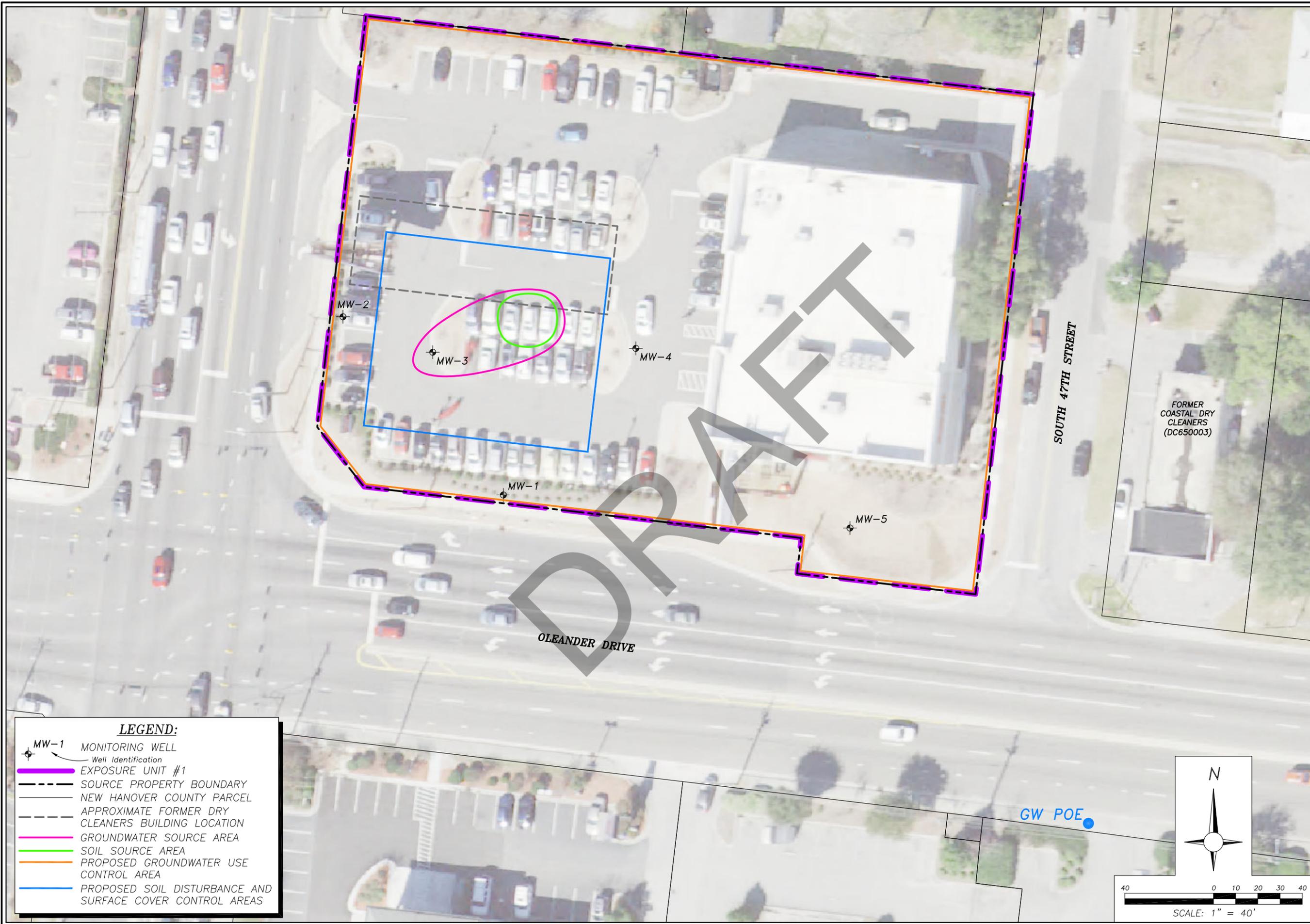
PREP. BY
BH

REV. BY
LG

SCALE
AS SHOWN

DATE
9/18

PROJECT NO.
DC6513SL05



LEGEND:

- MW-1 MONITORING WELL
Well Identification
- EXPOSURE UNIT #1
- SOURCE PROPERTY BOUNDARY
- NEW HANOVER COUNTY PARCEL
- APPROXIMATE FORMER DRY CLEANERS BUILDING LOCATION
- GROUNDWATER SOURCE AREA
- SOIL SOURCE AREA
- PROPOSED GROUNDWATER USE CONTROL AREA
- PROPOSED SOIL DISTURBANCE AND SURFACE COVER CONTROL AREAS

N

SCALE: 1" = 40'

NOTES:
 1. Features shown are not an authoritative location, nor are they presented to a stated accuracy.
 2. GW POE = Groundwater Point-of-Exposure.

TITLE FIGURE 6
 LAND-USE CONTROL AREAS
 WINTER PARK CLEANERS
 1437 SOUTH COLLEGE ROAD
 WILMINGTON, NORTH CAROLINA

COORDINATE SYSTEM:
 NAD 1983 NORTH CAROLINA STATE PLANE FIPS 3200, US SURVEY FEET

ATC Associates of North Carolina, P.C.
 Raleigh, North Carolina, 27604 (919) 871-0999

SCALE	AS SHOWN	DATE	2/18
REV. BY	AW	PROJECT NO.	DC650013

APPENDIX A
DSCA PROGRAM'S ANALYTICAL DATA TABLES

**Analytical Data Tables
for
North Carolina Dry-Cleaning Solvent Cleanup Act Program**

DRAFT

Facility Name:	Winter Park Cleaners
	1437 South College Road, Wilmington, New Hanover County, North Carolina
DSCA ID No.:	DC650013
Submittal Date:	April 9, 2019
Prepared By:	ATC Associates of North Carolina, P.C.
	2725 East Millbrook Road, Suite 121, Raleigh, North Carolina 27604

DSCA ID No.: DC650013

Table/ Att. No.	Description	Check box if included
Tables		
Table 1	Site Chronology	<input checked="" type="checkbox"/>
Table 2	Analytical Data for Soil	<input checked="" type="checkbox"/>
Table 3	Analytical Data for Sub-slab Gas	<input checked="" type="checkbox"/>
Table 4	Analytical Data for Soil Gas	<input checked="" type="checkbox"/>
Table 5	Analytical Data for Indoor and Outdoor Air	<input type="checkbox"/>
Table 6	Monitoring Well Construction Data	<input checked="" type="checkbox"/>
Table 7	Groundwater Elevation Data	<input checked="" type="checkbox"/>
Table 8	Analytical Data for Groundwater	<input checked="" type="checkbox"/>
Table 9	Analytical Data for Surface Water	<input type="checkbox"/>
Table 10	Water Well(s) Survey Data	<input type="checkbox"/>
Table 11	Analytical Data for Water Supply Well(s)	<input type="checkbox"/>
Table 12	Analytical Data for Natural Attenuation Parameters	<input type="checkbox"/>
Attachments		
Att. 1	Site map showing location(s) of soil boring(s).	<input type="checkbox"/>
Att. 2	Soil contaminant concentration maps showing the concentration at each sampling point.	<input type="checkbox"/>
Att. 3	Soil isoconcentration maps.	<input type="checkbox"/>
Att. 4	Site map showing location(s) of monitoring well(s).	<input type="checkbox"/>
Att. 5	Well completion diagrams and records of construction submitted to state.	<input type="checkbox"/>
Att. 6	Groundwater gradient map for each sampling event.	<input type="checkbox"/>
Att. 7	PCE concentration map showing the concentration at each sampling point and isoconcentration map. However, if there are significant plumes for other dry-cleaning contaminants, contaminant concentration maps for each chemical of concern should be included.	<input type="checkbox"/>
Att. 8	Groundwater concentration trend plots.	<input type="checkbox"/>
Att. 9	Map showing location(s) of surface water sample(s) (if applicable).	<input type="checkbox"/>
Att. 10	Surface water concentration map showing the concentration at each sampling point (if applicable).	<input type="checkbox"/>
Att. 11	USGS Quad map with plotted water well location(s) within the 1,500 foot and 0.5 mile radii of the site (if applicable).	<input type="checkbox"/>
Att. 12	Site map showing location(s) of monitoring well(s) for natural attenuation paramet	<input type="checkbox"/>
Att. 13	Site map showing location(s) of indoor air, outdoor air, or soil gas samples.	<input type="checkbox"/>
Att. 14	Air and soil gas concentration map showing the concentration at each sampling point.	<input type="checkbox"/>
Att. 15	Signed laboratory analytical reports including chain-of custody and quality assurance/quality control (QA/QC) documentation (only if not previously submitted).	<input type="checkbox"/>
Att. 16		<input type="checkbox"/>
Att. 17		<input type="checkbox"/>
Att. 18		<input type="checkbox"/>
Att. 19		<input type="checkbox"/>
Att. 20		<input type="checkbox"/>
Att. 21		<input type="checkbox"/>

Note:

1. All maps must include a bar scale, north arrow, site name, DSCA ID No., and date.

Table 1: Site Chronology **ADT 1**

DSCA ID No.: DC650013

Chronology of Events

Date	Instructions: Brief description of all significant events that have occurred since a problem was suspected at the facility. Commence with the first date a problem was suspected and continue through the most recent activity described in the current report.
12/30/2011	Terracon conducted a Phase I Environmental Assessment (ESA).
1/3/2012	Terracon conducted a Limited Site Investigation. Field work consisted of the collection of nine soil samples: (T) SB-1 through (T) SB-4, (T) North, (T) South, (T) West, (T) East, and (T) B-1. (T) SB-1 through (T) SB-4 boring locations were then converted into four temporary monitoring wells for the collection of four groundwater grab samples: (T) GW-1 through (T) GW-4.
4/01/13 - 4/03/13	AMEC Environment & Infrastructure, Inc. (AMEC) conducted a Prioritization Assessment (PA) consisting of the advancement and sampling of 16 soil borings (SB-1 through SB-7, SB-9, SB-10B, SB-11B, SB-13, and SB-15 through SB-19), along with the collection of six groundwater grab samples (GW-1 through GW-6). Five temporary groundwater monitoring wells (TMW-1 through TMW-5) were installed for the collection of groundwater and to determine the direction of groundwater flow. Each were gauged, surveyed, and sampled prior to their abandonment. Additionally, two near-slab samples (NS-1 and NS-2) were collected at the front (east) and back (west) sides of the Trader Joes building.
6/17/2013	AMEC submitted Report Forms documenting April 2013 assessment activities.
10/14/13 - 10/16/13	AMEC installed, gauged and sampled five Type II permanent monitoring wells (MW-1 through MW-5), collected two geotechnical samples from borings MW-5 (2'-4') and MW-5 (8'-10'), and collected slug test data from MW-5.
9/17/2014	AMEC sampled wells MW-1 through MW-5.
12/9/2014	AMEC sampled wells MW-1 through MW-5.
3/10/2015	Amec Foster Wheeler sampled wells MW-1 through MW-5.
4/6/2015	Amec Foster Wheeler submitted Report Forms documenting plume stability monitoring performed between September 2014 and March 2015.
7/26/2018	ATC Associates of North Carolina, P.C. (ATC) collected sub-pavement soil gas samples SPMP-1, SPMP-2, and SPMP-3.
10/10/2018	ATC submitted a Vapor Intrusion Letter Report documenting the July 2018 vapor intrusion assessment.
11/13/2018	ATC submitted a Risk Assessment recommending site closure given certain land-use controls are implemented for the source property. The DSCA Program issued a Risk Assessment Concurrence.

Table 2: Analytical Data for Soil

ADT 2

DSCA ID No.: DC650013

Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
			[mg/kg]										
(T) SB-1*	12.5 - 14	01/03/12	<0.0046	<0.0046	0.0515	<0.0046	0.0118	<0.0046	<0.0046	<0.0046	<0.0046	<0.0093	0.128
(T) SB-2*	10 - 12.5	01/03/12	<1.06	<1.06	34.7	<1.06	15.4	<1.06	<1.06	<1.06	<1.06	<2.12	82.8
(T) SB-3*	5 - 7.5	01/03/12	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0106	<0.0106
(T) SB-4*	12.5 - 14	01/03/12	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0097	<0.0097
(T) North*	7.5 - 9	02/02/12	0.0057	<0.0012	<0.0012	<0.0012	<0.0059	<0.0012	<0.0059	<0.0012	<0.0012	<0.0012	<0.0035
(T) South	0 - 2.5	02/02/12	<0.0012	<0.0012	0.0030	<0.0012	<0.0058	<0.0012	<0.0058	<0.0012	<0.0012	<0.0012	<0.0034
(T) East	0 - 2.5	02/02/12	0.0027	<0.0011	0.036	<0.0011	0.0059	<0.0011	<0.0057	<0.0011	<0.0011	<0.0011	<0.0034
(T) West*	5 - 7.5	02/02/12	<0.0012	<0.0012	<0.0012	<0.0012	<0.0058	<0.0012	<0.0058	<0.0012	<0.0012	<0.0012	<0.0035
(T) B-1	2.5 - 5	02/02/12	<0.054	<0.054	0.98	<0.054	1.4	<0.054	<0.27	<0.054	<0.054	<0.054	<0.16
SB-1	3	04/02/13	<0.0042	<0.0069	<0.0069	<0.0069	<0.0069	<0.014	<0.0069	<0.0069	<0.0069	<0.014	<0.0209
SB-2	4	04/02/13	<0.30	<0.30	5.0	<0.30	10	<0.30	<0.30	<0.30	<0.30	<0.61	<0.91
SB-3	5	04/02/13	<0.0026	<0.0043	<0.0043	<0.0043	<0.0043	<0.0086	<0.0043	<0.0043	<0.0043	<0.0086	<0.0129
SB-4	4	04/02/13	<0.0054	<0.0091	0.0039 J	<0.0091	<0.0091	<0.018	<0.0091	<0.0091	<0.0091	<0.018	<0.0271
SB-5	5	04/02/13	<0.0046	<0.0076	<0.0076	<0.0076	<0.0076	<0.015	<0.0076	<0.0076	<0.0076	<0.015	<0.0226
SB-6*	7	04/02/13	<0.0035	<0.0059	<0.0059	<0.0059	<0.0059	<0.012	<0.0059	<0.0059	<0.0059	<0.012	<0.0179
SB-7*	8	04/02/13	<0.0035	<0.0059	<0.0059	<0.0059	<0.0059	<0.012	<0.0059	<0.0059	<0.0059	<0.012	<0.0179
SB-9	5	04/02/13	<0.0026	<0.0044	<0.0044	<0.0044	<0.0044	<0.0088	<0.0044	<0.0044	<0.0044	<0.0088	<0.0132
SB-10B	5	04/03/13	<0.0024	<0.0040	<0.0040	<0.0040	<0.0040	<0.0079	<0.0040	<0.0040	<0.0040	<0.0079	<0.0119
SB-11B	3	04/02/13	<0.0025	<0.0042	<0.0042	<0.0042	<0.0042	<0.0085	<0.0042	<0.0042	<0.0042	<0.0085	<0.0127
SB-13	4	04/02/13	<0.0028	<0.0047	<0.0047	<0.0047	<0.0047	<0.0094	<0.0047	<0.0047	<0.0047	<0.0094	<0.0141
SB-15	4	04/02/13	<0.0026	<0.0043	<0.0043	<0.0043	<0.0043	<0.0087	<0.0043	<0.0043	<0.0043	<0.0087	<0.013
SB-16	5	04/02/13	<0.0024	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.0040	<0.0040	<0.0040	<0.0080	<0.012
SB-17	4	04/03/13	<0.0024	<0.0040	<0.0040	<0.0040	<0.0040	<0.0080	<0.0040	<0.0040	<0.0040	<0.0080	<0.012
SB-18	5	04/03/13	<0.0024	<0.0041	<0.0041	<0.0041	<0.0041	<0.0082	<0.0041	<0.0041	<0.0041	<0.0082	<0.0123
SB-19	5	04/03/13	<0.0029	<0.0049	<0.0049	<0.0049	<0.0049	<0.0098	<0.0049	<0.0049	<0.0049	<0.0098	<0.0147
IHSB PSRG			0.01	0.41	6.1	0.09	0.39	0.0063	8.3	0.62	0.021	0.00021	9.9

* - Soil sample was collected below the historical high water table. Therefore, the sample is not indicative of soil conditions in the subsurface.

Table 2(1): Analytical Data for Soil (User Specified Chemicals)

ADT 2(1)

DSCA ID No.: DC650013

Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	o-Xylene	Isopropylbenzene (Cumene)	p-Isopropyltoluene	n-Propylbenzene	sec-Butylbenzene	n-Butylbenzene	tert-Butylbenzene
			[mg/kg]										
(T) SB-1*	12.5 - 14	01/03/12	<0.0046	0.0394	0.0089	0.109	0.0195	<0.0046	<0.0046	0.0054	<0.0046	<0.0046	<0.0046
(T) SB-2*	10 - 12.5	01/03/12	<1.060	86.6	25.1	73.0	9.77	4.82	3.47	15.1	1.78	5.65	<1.060
(T) SB-3*	5 - 7.5	01/03/12	<0.0053	<0.0053	<0.0053	0.0106	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053	<0.0053
(T) SB-4*	12.5 - 14	01/03/12	<0.0048	<0.0048	<0.0048	<0.0097	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
(T) North*	7.5 - 9	02/02/12	<0.0012	<0.0012	<0.0012	<0.0035	<0.0035	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
(T) South	0 - 2.5	02/02/12	<0.0012	0.0042	<0.0012	<0.0034	<0.0034	<0.0012	<0.0012	0.0013	<0.0012	<0.0012	<0.0012
(T) East	0 - 2.5	02/02/12	<0.0011	0.0024	<0.0011	<0.0034	<0.0034	0.0035	<0.0011	0.0095	<0.0011	0.0013	<0.0011
(T) West*	5 - 7.5	02/02/12	<0.0012	<0.0012	<0.0012	<0.0035	<0.0035	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012	<0.0012
(T) B-1	2.5 - 5	02/02/12	0.25	0.43	0.16	<0.16	<0.16	0.24	<0.054	0.71	0.11	0.26	<0.054
SB-1	3	04/02/13	<0.0069	0.057	0.0077 J	<0.014	<0.0069	0.0045 J	0.0072 J	0.0082 J	0.023	0.0045 J	0.033
SB-2	4	04/02/13	<0.30	<0.30	<0.30	<0.61	<0.30	0.77	<0.30	1.7	1.4	1.9	0.42
SB-3	5	04/02/13	<0.0043	<0.0086	<0.0086	<0.0086	<0.0043	<0.0086	<0.013	<0.0086	<0.013	<0.013	<0.017
SB-4	4	04/02/13	<0.0091	<0.018	<0.018	<0.018	<0.0091	<0.018	<0.027	<0.018	<0.027	<0.027	<0.036
SB-5	5	04/02/13	<0.0076	<0.015	<0.015	<0.015	<0.0076	<0.015	<0.023	<0.015	<0.023	<0.023	<0.030
SB-6*	7	04/02/13	<0.0059	<0.012	<0.012	<0.012	<0.0059	<0.012	<0.018	<0.012	<0.018	<0.018	<0.023
SB-7*	8	04/02/13	<0.0059	<0.012	<0.012	<0.012	<0.0059	<0.012	<0.018	<0.012	<0.018	<0.018	<0.024
SB-9	5	04/02/13	<0.0044	<0.0088	<0.0088	<0.0088	<0.0044	<0.0088	<0.013	<0.0088	<0.013	<0.013	<0.018
SB-10B	5	04/03/13	<0.0040	<0.0079	<0.0079	<0.0079	<0.0040	<0.0079	<0.012	<0.0079	<0.012	<0.012	<0.016
SB-11B	3	04/02/13	<0.0042	<0.0085	<0.0085	<0.0085	<0.0042	<0.0085	<0.013	<0.0085	<0.013	<0.013	<0.017
SB-13	4	04/02/13	<0.0047	<0.0094	<0.0094	<0.0094	<0.0047	<0.0094	<0.014	<0.0094	<0.014	<0.014	<0.019
SB-15	4	04/02/13	<0.0043	<0.0087	<0.0087	<0.0087	<0.0043	<0.0087	<0.013	<0.0087	<0.013	<0.013	<0.017
SB-16	5	04/02/13	<0.0040	<0.0080	<0.0080	<0.0080	<0.0040	<0.0080	<0.012	<0.0080	<0.012	<0.012	<0.016
SB-17	4	04/03/13	<0.0040	<0.0080	<0.0080	<0.0080	<0.0040	<0.0080	<0.012	<0.0080	<0.012	<0.012	<0.016
SB-18	5	04/03/13	<0.0041	<0.0082	<0.0082	<0.0082	<0.0041	<0.0082	<0.012	<0.0082	<0.012	<0.012	<0.016
SB-19	5	04/03/13	<0.0049	<0.0098	<0.0098	<0.0098	<0.0049	<0.0098	<0.015	<0.0098	<0.015	<0.015	<0.020
IHSB PSRG			70	12	11	9.8	9.8	2.3	1.24	2.6	4.1	4.5	3.1

* - Soil sample was collected below the historical high water table. Therefore, the sample is not indicative of soil conditions in the subsurface.

Table 2(1): Analytical Data for Soil (User Specified Chemicals)

ADT 2(2)

DSCA ID No.: DC650013

Sample ID	Depth [feet bgs]	Sampling Date (mm/dd/yy)	Acetone	Methyl Ethyl Kctone (2-Butanone)	Acenaphthene (SVOC)	Dibenzofuran (SVOC)	Fluorene (SVOC)	Phenanthrene (SVOC)	1-Methylnaphthalene (SVOC)	2-Methylnaphthalene (SVOC)	Naphthalene (SVOC)	Bis(2-Ethylhexyl)phthalate (SVOC)
			[mg/kg]									
(T) SB-1*	12.5 - 14	01/03/12	<0.0926	<0.0926	<0.383	<0.383	<0.383	<0.383	<0.383	<0.383	<0.383	<0.383
(T) SB-2*	10 - 12.5	01/03/12	<21.20	<21.20	<1.850	<1.850	<1.850	<1.850	2.85	6.39	6.67	<1.850
(T) SB-3*	5 - 7.5	01/03/12	<0.106	<0.106	<0.356	<0.356	<0.356	<0.356	<0.356	<0.356	<0.356	<0.356
(T) SB-4*	12.5 - 14	01/03/12	<0.0967	<0.0967	<0.385	<0.385	<0.385	<0.385	<0.385	<0.385	<0.385	<0.385
(T) North*	7.5 - 9	02/02/12	<0.059	<0.012	NA	NA	NA	NA	NA	NA	NA	NA
(T) South	0 - 2.5	02/02/12	<0.058	<0.012	NA	NA	NA	NA	NA	NA	NA	NA
(T) East	0 - 2.5	02/02/12	<0.057	<0.011	NA	NA	NA	NA	NA	NA	NA	NA
(T) West*	5 - 7.5	02/02/12	<0.58	<0.012	NA	NA	NA	NA	NA	NA	NA	NA
(T) B-1	2.5 - 5	02/02/12	<2.7	<0.54	NA	NA	NA	NA	NA	NA	NA	NA
SB-1	3	04/02/13	0.20	0.016 J	<0.37	<0.37	<0.37	<0.37	NA	<0.37	<0.37	<0.37
SB-2	4	04/02/13	<1.2	<1.2	1.8 J	1.1 J	3.7 J	7.2	NA	21	2.4 J	2.3 J
SB-3	5	04/02/13	<0.017	<0.017	<0.37	<0.37	<0.37	<0.37	NA	<0.37	<0.37	<0.37
SB-4	4	04/02/13	<0.036	<0.036	<3.8	<3.8	<3.8	<3.8	NA	<3.8	<3.8	<3.8
SB-5	5	04/02/13	<0.030	<0.030	<0.44	<0.44	<0.44	<0.44	NA	<0.44	<0.44	<0.44
SB-6*	7	04/02/13	<0.023	<0.023	<0.42	<0.42	<0.42	<0.42	NA	<0.42	<0.42	<0.42
SB-7*	8	04/02/13	<0.024	<0.024	<0.39	<0.39	<0.39	<0.39	NA	<0.39	<0.39	<0.39
SB-9	5	04/02/13	<0.018	<0.018	<0.36	<0.36	<0.36	<0.36	NA	<0.36	<0.36	<0.36
SB-10B	5	04/03/13	<0.016	<0.016	<2.0	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0
SB-11B	3	04/02/13	0.018	<0.017	<2.0	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0
SB-13	4	04/02/13	0.020	<0.019	<1.7	<1.7	<1.7	<1.7	NA	<1.7	<1.7	<1.7
SB-15	4	04/02/13	<0.017	<0.017	<4.2	<4.2	<4.2	<4.2	NA	<4.2	<4.2	<4.2
SB-16	5	04/02/13	<0.016	<0.016	<0.38	<0.38	<0.38	<0.38	NA	<0.38	<0.38	<0.38
SB-17	4	04/03/13	<0.016	<0.016	<0.35	<0.35	<0.35	<0.35	NA	<0.35	<0.35	<0.35
SB-18	5	04/03/13	0.051	<0.016	<4.1	<4.1	<4.1	<4.1	NA	<4.1	<4.1	<4.1
SB-19	5	04/03/13	<0.020	<0.020	<3.6	<3.6	<3.6	<3.6	NA	<3.6	<3.6	<3.6
IHSB PSRG			2.5	1.7	16	10	110	134	0.11	3.1	0.39	14

* - Soil sample was collected below the historical high water table. Therefore, the sample is not indicative of soil conditions in the subsurface.

Table 3: Analytical Data for Sub-slab Gas

DSCA ID No.: DC650013

Sample ID	Depth [inches bgs]	Slab Thickness [inches]	Sampling Duration ¹	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)	Isopropylbenzene (cumene)	n-Propylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene
					[µg/m ³]														
SPMP-1	3	4	G	7/26/18	100	<20	29	NA	<27	<34	NA	<40	<27	<13	62	<25	<25	<25	<25
SPMP-2	3	4	G	7/26/18	36	<4.0	58	NA	<5.3	9.9	NA	<8.0	<5.5	<2.6	170	<5.0	<5.0	12	<5.0
SPMP-3	3	4	G	7/26/18	530	<2,500	<2,500	NA	<500	<500	NA	<2,500	<500	<250	<2,500	<2,500	<2,500	<2,500	<2,500
Non-Residential Vapor Intrusion Screening Levels²					1,600	NE	4,900	47,000	260	3,500	440,000	NE	180	2,800	8,800	35,000	88,000	5,300	5,300

¹ Indicate "G" for grab sample or for longer samples indicate the number of hours followed by "h".

µg/m³ = Micrograms per cubic meter

NA = Not analyzed

<X = Below laboratory reporting limit of X

NE = Not established

² North Carolina Department of Environmental Quality (February 2018)

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Table 4: Analytical Data for Soil Gas

ADT 4

DSCA ID No.: DC650013														
Sample ID	Depth [[feet bgs]	Sample Duration ¹	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
				[µg/m ³]										
NS-1	7	0.33h	04/03/13	40	< 0.40	130	< 0.36	2.1	1.4	560	< 0.40	< 0.54	1.6	580
NS-2	7	0.55h	04/03/13	14	< 0.40	6.8	< 0.36	2.2	1.0	33	< 0.40	< 0.54	0.31	25.2
DWM Non-Residential Soil Gas Screening Level				1,600	NE	4,910	47,000	260	3,500	440,000	NE	180	2,800	8,800

¹ Indicate "G" for grab sample or for longer samples indicate the number of hours followed by "h".

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Table 4(1): Analytical Data for Soil Gas

ADT 4(1)

DSCA ID No.: DC650013

Sample ID	Depth [feet bgs]	Sample Duration ¹	Sampling Date (mm/dd/yy)	1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	1,4-Dichlorobenzene	1,3-Butadiene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	2-Butanone (MEK)	2-Hexanone (MBK)	Trichlorofluoromethane (Freon 11)	Tetrahydrofuran	Styrene	Propene	Methylene Chloride	Isopropanol	Hexane
				[µg/m ³]													
NS-1	7	0.33h	04/03/13	0.81	<0.60	1.8	46	150	9.7	<0.41	13	2.3	2.4	56	3.3	190	69
NS-2	7	0.55h	04/03/13	0.51	0.24	45	6.7	25	27	8.7	43	<0.29	2.3	540	2.8	220	34
DWM Non-Residential Soil Gas Screening Level				440,000	1,100	180	5,300	5,300	440,000	2,600	NE	180,000	88,000	260,000	53,000	18,000	61,000

¹ Indicate "G" for grab sample or for longer samples indicate the number of hours followed by "h".

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Table 4(2): Analytical Data for Soil Gas

ADT 4(2)

DSCA ID No.: DC650013

Sample ID	Depth [feet bgs]	Sample Duration ¹	Sampling Date (mm/dd/yy)	Heptane	Ethyl Acetate	Ethanol	Dichlorodifluoromethane (Freon 12)	Carbon Disulfide	4-Ethyltoluene	4-Methyl-2-pentanone (MIBK)	Acetone	Cyclohexane	Carbon Tetrachloride	Chlorobenzene	Chloroform	Chloromethane	Helium
				[µg/m ³]													[µg/L]
NS-1	7	0.33h	04/03/13	91	40	160	2.3	1.1	54	<0.41	140	4.5	0.54	<0.46	8.1	2.2	1,308.79
NS-2	7	0.55h	04/03/13	19	31	82	1.6	11	5.4	17	210	1.4	<0.63	0.37	0.66	1.2	1,308.79
DWM Non-Residential Soil Gas Screening Level				35,000	NES	NE	8,800	61,000	NE	260,000	2,700,000	530,000	2,000	4,400	530	7,900	NE

¹ Indicate "G" for grab sample or for longer samples indicate the number of hours followed by "h".

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Table 6: Monitoring Well Construction Data**ADT 6****DSCA ID No.: DC650013**

Well ID	Date Installed (mm/dd/yy)	Number of Samples	Well Depth [feet]	Well Diameter [inch]	Screen Interval [feet]	Status (Active/Inactive)
MW-1	10/15/13	4	18	1	8-18	Active
MW-2	10/15/13	4	18	1	8-18	Active
MW-3	10/15/13	4	17	1	7-17	Active
MW-4	10/15/13	4	17	1	7-17	Active
MW-5	10/15/13	4	14	2	4-14	Active

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Table 7: Groundwater Elevation Data**ADT 7****DSCA ID No.: DC650013**

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	TOC Elevation [feet]	Depth to Water [feet bgs]	Groundwater Elevation [feet]	Depth to NAPL [feet bgs]	NAPL Thickness [feet]	Corrected* Groundwater Elevation [feet]
MW-1	10/16/13	95.04	9.55	85.49	NA	NA	NA
	09/17/14		7.21	87.83	NA	NA	NA
	12/09/14		9.38	85.66	NA	NA	NA
	03/10/15		7.95	87.09	NA	NA	NA
MW-2	10/16/13	94.56	8.91	85.65	NA	NA	NA
	09/17/14		6.53	88.03	NA	NA	NA
	12/09/14		8.67	85.89	NA	NA	NA
	03/10/15		7.25	87.31	NA	NA	NA
MW-3	10/16/13	94.44	8.90	85.54	NA	NA	NA
	09/17/14		6.55	87.89	NA	NA	NA
	12/09/14		8.69	85.75	NA	NA	NA
	03/10/15		7.26	87.18	NA	NA	NA
MW-4	10/16/13	94.69	9.32	85.37	NA	NA	NA
	09/17/14		6.90	87.79	NA	NA	NA
	12/09/14		9.11	85.58	NA	NA	NA
	03/10/15		7.67	87.02	NA	NA	NA
MW-5	10/16/13	92.60	7.79	84.81	NA	NA	NA
	09/17/14		5.28	87.32	NA	NA	NA
	12/09/14		7.42	85.18	NA	NA	NA
	03/10/15		5.97	86.63	NA	NA	NA

Table 8: Analytical Data for Groundwater

ADT 8

DSCA ID No.: DC650013

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
		[mg/L]										
NC 2L Standard		0.001	0.07	0.6	0.02	0.006	0.001	0.6	0.1	0.003	0.00003	0.5
(T) GW-1	1/3/12	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003
(T) GW-2	1/3/12	0.0021	<0.001	0.285	<0.001	0.0734	<0.001	0.0039	<0.001	<0.001	<0.001	0.729
(T) GW-3	1/3/12	0.0057	<0.001	0.0702	<0.001	0.0151	<0.001	<0.001	<0.001	<0.001	<0.001	<0.003
(T) GW-4	1/3/12	0.0874	<0.001	0.657	<0.001	0.0841	<0.001	0.0012	<0.001	<0.001	<0.001	0.2545
GW-1	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
GW-2	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
GW-3	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
GW-4	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
GW-5	4/3/13	<0.00050	<0.00050	0.0024	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
GW-6	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
TMW-5/GW-7	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
TMW-3/GW-8	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
TMW-2/GW-9	4/3/13	0.00056	<0.00050	0.036	<0.00050	0.0089	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
TMW-1/GW-10	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
TMW-4/GW-11	4/3/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015

Table 8: Analytical Data for Groundwater

ADT 8

DSCA ID No.: DC650013

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Benzene	cis-1,2-Dichloroethylene	Ethylbenzene	Methyl tert-butyl ether (MTBE)	Naphthalene	Tetrachloroethylene	Toluene	trans-1,2-Dichloroethylene	Trichloroethylene	Vinyl chloride	Xylenes (total)
		[mg/L]										
NC 2L Standard		0.001	0.07	0.6	0.02	0.006	0.001	0.6	0.1	0.003	0.00003	0.5
MW-1	10/15/13	0.00053	<0.00050	0.0063	<0.00050	0.0021	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.0063
	9/17/14	0.0014	<0.00050	0.038	<0.00050	0.0019	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	12/9/14	0.0011	<0.00050	0.0062	<0.00050	0.00099 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	3/10/15	0.0039	<0.00050	0.076	<0.00050	0.0015	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.003
MW-2	10/15/13	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.003
	9/17/14	0.00063	<0.00050	<0.00050	<0.00050	0.00078 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	12/9/14	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	3/10/15	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
MW-3	10/15/13	0.18	<0.0025	2.6	<0.0025	0.56	<0.0025	0.0058	<0.0025	<0.0025	<0.0025	2.3
	9/17/14	0.13	<0.0025	2.7	<0.0025	0.74	<0.0025	0.0054	<0.0025	<0.0025	<0.0025	1.82
	12/9/14	0.24	<0.0025	3.8	<0.0025	0.8	<0.0025	0.008	<0.0025	<0.0025	<0.0025	2.4
	3/10/15	0.18	<0.0025	2.7	<0.0025	0.43	<0.0025	0.005	<0.0025	<0.0025	<0.0025	1.712
MW-4	10/15/13	<0.00050	<0.00050	0.018	<0.00050	0.0054	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.016
	9/17/14	<0.00050	<0.00050	<0.00050	<0.00050	0.00072 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	12/9/14	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	3/10/15	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
MW-5	10/15/13	<0.00050	<0.00050	0.0021	<0.00050	0.00088 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.002 J
	9/17/14	<0.00050	<0.00050	<0.00050	<0.00050	0.00055 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	12/9/14	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015
	3/10/15	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.0015

Table 8: Analytical Data for Groundwater

ADT 8 (1)

DSCA ID No.: DC650013

Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Acetone	Chloroform	Isopropylbenzene (Cumene)	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	4-Isopropyltoluene	o-Xylene
		[mg/L]										
NC 2L Standard		6	0.07	0.07	0.07	0.07	0.07	0.4	0.4	0.5	0.025	0.5
(T) GW-1	1/3/12	<0.025	<0.001	NA	NA	NA	NA	NA	NA	<0.002	NA	<0.001
(T) GW-2	1/3/12	<0.025	<0.001	NA	NA	NA	NA	NA	NA	0.583	NA	0.146
(T) GW-3	1/3/12	<0.025	<0.001	NA	NA	NA	NA	NA	NA	<0.002	NA	<0.001
(T) GW-4	1/3/12	<0.025	<0.001	NA	NA	NA	NA	NA	NA	0.235	NA	0.0195
GW-1	4/3/13	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
GW-2	4/3/13	<0.0050	0.0007	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
GW-3	4/3/13	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
GW-4	4/3/13	0.0082	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
GW-5	4/3/13	<0.0050	<0.00050	0.0031	0.0033	0.0056	0.0026	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
GW-6	4/3/13	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
TMW-5/GW-7	4/3/13	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
TMW-3/GW-8	4/3/13	0.0031 J	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
TMW-2/GW-9	4/3/13	0.0043 J	<0.00050	0.0099	0.0016	0.014	0.002	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
TMW-1/GW-10	4/3/13	0.0040 J	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050
TMW-4/GW-11	4/3/13	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.001	<0.00050	<0.00050

Table 8: Analytical Data for Groundwater

ADT 8 (1)

DSCA ID No.: DC650013												
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	Acetone	Chloroform	Isopropylbenzene (Cumene)	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	4-Isopropyltoluene	o-Xylene
		[mg/L]										
NC 2L Standard		6	0.07	0.07	0.07	0.07	0.07	0.4	0.4	0.5	0.025	0.5
MW-1	10/15/13	<0.0050	<0.00050	<0.00050	<0.0010	0.0012	<0.00050	0.005	0.0012	0.0063	<0.00050	<0.00050
	9/17/14	<0.0050	<0.0050	0.0056	0.0017	0.01	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	12/9/14	<0.0050	<0.00050	0.0036	<0.0010	0.001	0.0018	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	3/10/15	<0.0050	<0.00050	0.018	0.0037	0.017	<0.00050	<0.00050	<0.00050	0.003	<0.00050	<0.00050
MW-2	10/15/13	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	9/17/14	<0.0050	<0.0050	0.0011	<0.0010	0.0019	0.00052	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	12/9/14	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	3/10/15	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
MW-3	10/15/13	<0.025	<0.0025	0.13	0.017	0.27	0.011	1.2	0.26	2.3	0.004	0.02
	9/17/14	<0.025	<0.025	0.17	0.027	0.36	0.019	2.1	0.46	1.8	0.0095	0.02
	12/9/14	<0.025	<0.0025	0.17	0.017	0.24	0.018	2.4	0.54	2.4	0.01	0.017
	3/10/15	<0.025	<0.0025	0.14	0.017	0.28	0.013	1.7	0.29	1.7	0.0065	0.012
MW-4	10/15/13	<0.0050	<0.00050	0.0013	<0.0010	0.0034	<0.00050	0.011	0.0024	0.016	<0.00050	<0.00050
	9/17/14	<0.0050	<0.0050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	12/9/14	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	3/10/15	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
MW-5	10/15/13	<0.0050	<0.00050	<0.00050	<0.0010	0.00052	<0.00050	0.002	0.00055	0.002	<0.00050	<0.00050
	9/17/14	<0.0050	<0.0050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	12/9/14	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050
	3/10/15	<0.0050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.0010	<0.00050	<0.00050

Table 8: Analytical Data for Groundwater

ADT 8 (2)

DSCA ID No.: DC650013										
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	1-Methylnaphthalene (SVOC)	2-Methylnaphthalene (SVOC)	Naphthalene (SVOC)	Acenaphthylene (SVOC)	C5-C8 Aliphatics (VPH)	C9-C12 Aliphatics (VPH)	C9-C10 Aromatics (VPH)	C9-C18 Aliphatics (EPH)	C11-C22 Aromatics (EPH)
		[mg/L]								
NC 2L Standard		0.001	0.03	0.006	0.2	0.4	0.7	0.2	0.7	0.2
(T) GW-1	1/3/12	<0.0111	<0.0111	<0.0111	<0.0111	NA	NA	NA	NA	NA
(T) GW-2	1/3/12	<0.0111	0.0146	0.0218	<0.0111	NA	NA	NA	NA	NA
(T) GW-3	1/3/12	<0.0111	<0.0111	<0.0111	<0.0111	NA	NA	NA	NA	NA
(T) GW-4	1/3/12	<0.0111	<0.0111	0.0301	<0.0111	NA	NA	NA	NA	NA
GW-1	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
GW-2	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
GW-3	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
GW-4	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
GW-5	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
GW-6	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
TMW-5/GW-7	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
TMW-3/GW-8	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
TMW-2/GW-9	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
TMW-1/GW-10	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA
TMW-4/GW-11	4/3/13	NA	<0.010	<0.010	<0.010	NA	NA	NA	NA	NA

Table 8: Analytical Data for Groundwater

ADT 8 (2)

DSCA ID No.: DC650013										
Groundwater Sampling Point	Sampling Date (mm/dd/yy)	1-Methylnaphthalene (SVOC)	2-Methylnaphthalene (SVOC)	Naphthalene (SVOC)	Acenaphthylene (SVOC)	C5-C8 Aliphatics (VPH)	C9-C12 Aliphatics (VPH)	C9-C10 Aromatics (VPH)	C9-C18 Aliphatics (EPH)	C11-C22 Aromatics (EPH)
		[mg/L]								
NC 2L Standard		0.001	0.03	0.006	0.2	0.4	0.7	0.2	0.7	0.2
MW-1	10/15/13	<0.01	<0.01	<0.01	<0.01	0.0016 J	0.053	0.015 J	<0.100	<0.100
	9/17/14	0.0044 J	<0.01	<0.011	<0.011	0.03 J	0.22	0.21	<0.100	<0.100
	12/9/14	<0.010	<0.01	<0.01	<0.01	0.05	0.16	0.21	<0.10	0.11
	3/10/15	0.0075 J	<0.01	<0.01	<0.01	0.12	0.38	0.42	<0.100	0.19
MW-2	10/15/13	<0.01	<0.01	<0.01	<0.01	<0.050	0.0095 J	<0.050	<0.100	<0.100
	9/17/14	<0.01	<0.01	<0.01	<0.01	0.018 J	0.051	0.012 J	<0.100	<0.100
	12/9/14	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.10	<0.10
	3/10/15	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.100	<0.100
MW-3	10/15/13	0.063	0.11	0.44	0.0031 J	1.8	0.51	4	0.14	0.5
	9/17/14	0.06	0.1	0.41	<0.01	1.6	1.9	6.1	<0.100	<0.100
	12/9/14	0.062	0.12	0.46	<0.010	2.2	2.1	6.2	0.053 J	0.83
	3/10/15	0.039	0.071	0.2	<0.010	1.2	5.4	2.9	0.028 J	0.52
MW-4	10/15/13	<0.01	<0.01	0.0031	<0.01	<0.050	0.13	0.062	<0.100	<0.100
	9/17/14	<0.01	<0.01	<0.011	<0.011	<0.050	<0.050	<0.050	<0.100	<0.100
	12/9/14	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.10	<0.10
	3/10/15	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.100	<0.100
MW-5	10/15/13	<0.01	<0.01	<0.01	<0.01	<0.050	0.030 J	0.0078 J	<0.100	<0.100
	9/17/14	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.100	<0.100
	12/9/14	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.10	<0.10
	3/10/15	<0.01	<0.01	<0.01	<0.01	<0.050	<0.050	<0.050	<0.100	<0.100

APPENDIX B
GSi MANN-KENDALL TOOLKIT DOCUMENTATION

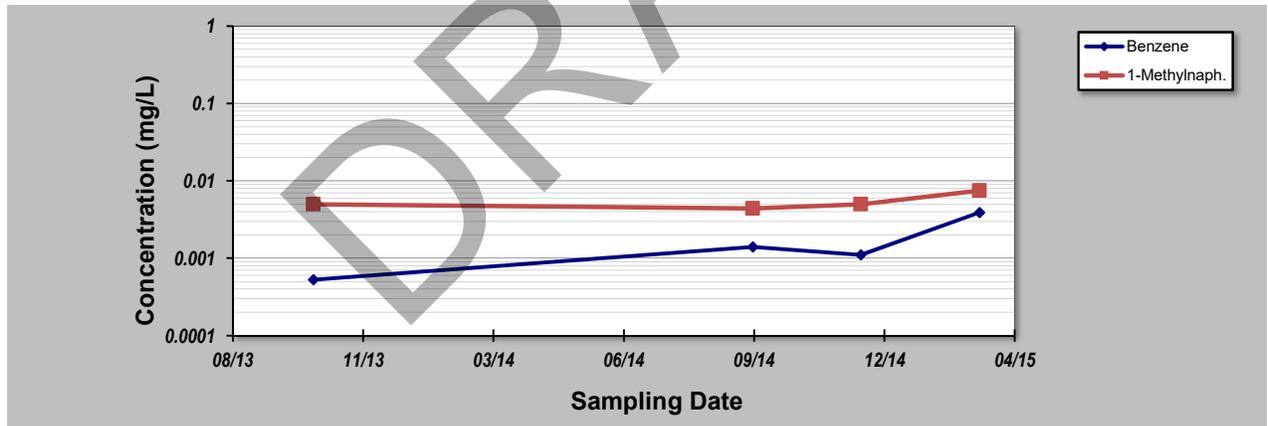
GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **21-Jan-19** Job ID: **DC650013**
 Facility Name: **Winter Park Cleaners** Constituent: **MW-1**
 Conducted By: **ATC Associates of North Carolina, P.C.** Concentration Units: **mg/L**

Sampling Point ID: **Benzene** **1-Methylnaph.**

Sampling Event	Sampling Date	MW-1 CONCENTRATION (mg/L)							
		1	2	3	4	5	6	7	8
1	10/15/13	0.00053	0.0050						
2	9/17/14	0.0014	0.0044						
3	12/9/14	0.0011	0.0050						
4	3/10/15	0.0039	0.0075						
5									
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11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Coefficient of Variation:	0.86	0.25
Mann-Kendall Statistic (S):	4	3
Confidence Factor:	83.3%	72.9%
Concentration Trend:	No Trend	No Trend



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

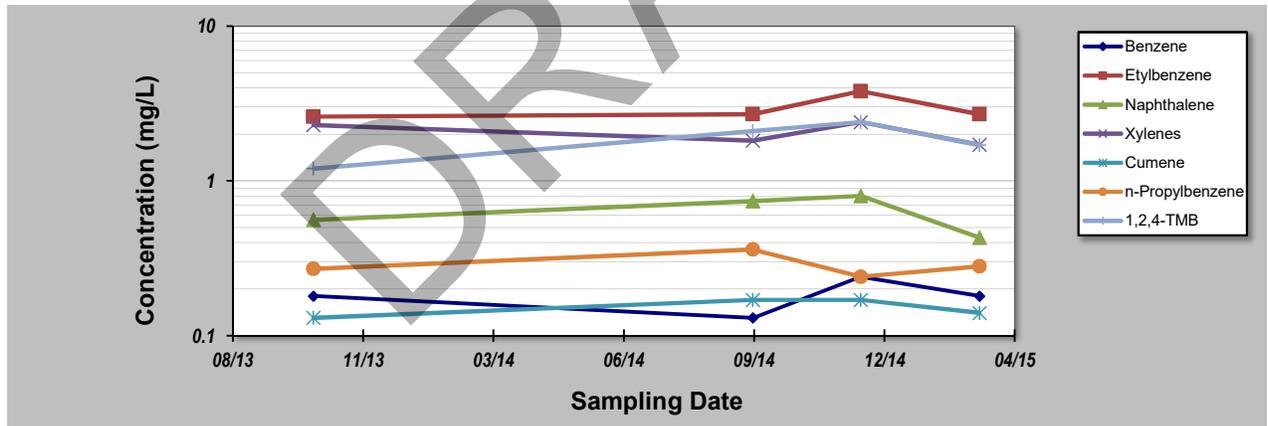
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GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **21-Jan-19** Job ID: **DC650013**
 Facility Name: **Winter Park Cleaners** Constituent: **MW-3**
 Conducted By: **ATC Associates of North Carolina, P.C.** Concentration Units: **mg/L**

Sampling Point ID: **Benzene** **Etylbenzene** **Naphthalene** **Xylenes** **Cumene** **n-Propylbenzene** **1,2,4-TMB**

Sampling Event	Sampling Date	MW-3 CONCENTRATION (mg/L)						
		Benzene	Etylbenzene	Naphthalene	Xylenes	Cumene	n-Propylbenzene	1,2,4-TMB
1	10/15/13	0.18	2.60	0.56	2.30	0.13	0.27	1.20
2	9/17/14	0.13	2.70	0.74	1.82	0.17	0.36	2.10
3	12/9/14	0.24	3.80	0.80	2.40	0.17	0.24	2.40
4	3/10/15	0.18	2.70	0.43	1.71	0.14	0.28	1.70
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.25	0.19	0.27	0.17	0.14	0.18	0.28
Mann-Kendall Statistic (S):		1	3	0	-2	1	0	2
Confidence Factor:		50.0%	72.9%	37.5%	62.5%	50.0%	37.5%	62.5%
Concentration Trend:		No Trend	No Trend	Stable	Stable	No Trend	Stable	No Trend



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

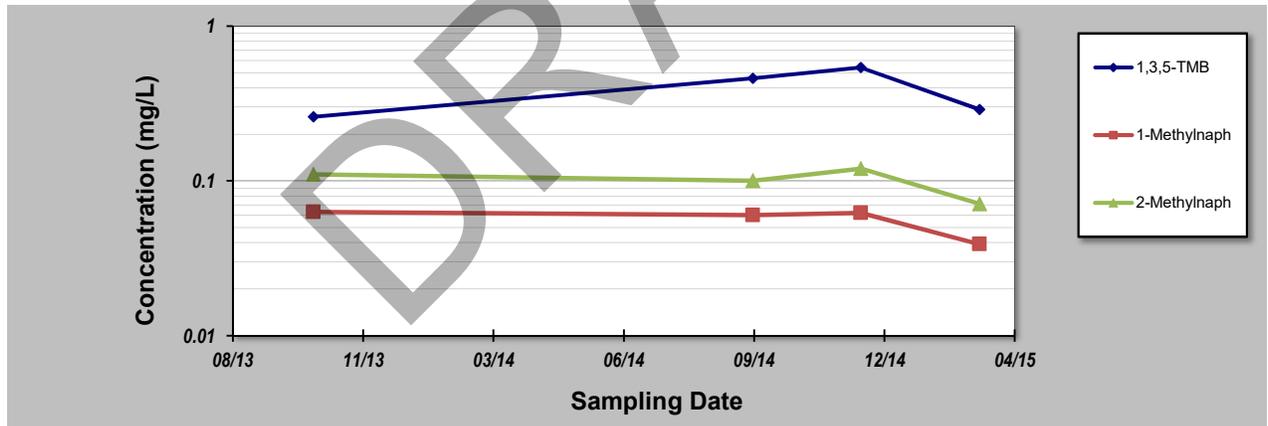
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GSI MANN-KENDALL TOOLKIT for Constituent Trend Analysis

Evaluation Date: **21-Jan-19** Job ID: **DC650013**
 Facility Name: **Winter Park Cleaners** Constituent: **MW-3**
 Conducted By: **ATC Associates of North Carolina, P.C.** Concentration Units: **mg/L**

Sampling Point ID: **1,3,5-TMB** **1-Methylnaph** **2-Methylnaph**

Sampling Event	Sampling Date	MW-3 CONCENTRATION (mg/L)					
		1,3,5-TMB	1-Methylnaph	2-Methylnaph			
1	10/15/13	0.26	0.063	0.11			
2	9/17/14	0.46	0.06	0.10			
3	12/9/14	0.54	0.062	0.12			
4	3/10/15	0.29	0.039	0.071			
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		0.35	0.20	0.21			
Mann-Kendall Statistic (S):		2	-4	-2			
Confidence Factor:		62.5%	83.3%	62.5%			
Concentration Trend:		No Trend	Stable	Stable			



Notes:

- At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
- Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
- Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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APPENDIX C
LEVEL 1 ECOLOGICAL RISK ASSESSMENT CHECKLISTS

Appendix C
Ecological Risk Assessment – Level 1
Winter Park Cleaners
1437 South College Road
Wilmington, New Hanover County, NC
DSCA Site ID: DC650013

Checklist A

1. Are there navigable water bodies or tributaries to a navigable water body on or within the one-half mile of the site?

Based upon the United State Geological Survey (USGS), Wilmington Quadrangle Topographic Map and the United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI), two tributaries to Hewletts Creek are within a half mile radius of the site. A riverine intermittent streambed with seasonal flooding is located approximately 1,584 feet southwest of the site, and a semi-permanently flooded riverine system is located approximately 1,056 feet northeast of the site. The section of Hewletts Creek downgradient from the site is an estuarine and marine deepwater habitat and flows into the Atlantic Ocean. See the topographic map in **Figure 1** and the USFWS NWI map in **Figure 2**.

2. Are there any water bodies anywhere on or within the one-half mile of the site?

Based on the USGS map (**Figure 1**) and the USFWS NWI map (**Figure 2**), two tributaries that drain in to Hewletts Creek, which drains to the Atlantic Ocean are located within one-half mile of the site. In addition, three fresh water ponds are located northwest, southwest, and east of the site.

3. Are there any wetland areas such as marshes or swamps on or within one-half mile of the site?

Based on the USFWS Wetland map (**Figure 2**), within one-half mile of the site there is a riverine intermittent streambed with seasonal flooding located southwest of the site, a semi-permanently flooded riverine located northeast of the site, and three fresh water ponds located northwest, southwest, and east of the site.

4. Are there any sensitive environmental areas on or within one-half mile of the site?

According to the North Carolina Natural Heritage Database, there are no significant natural heritage areas within one-half mile of the site. ATC also reviewed the USFWS online database, and no critical habitats or significant natural areas were found within one-half mile of the site. However, two tributaries to Hewletts Creek, which ultimately drains in to the Atlantic Ocean are located approximately 1,584 feet southwest and 1,056 feet northeast of the site. These could be considered sensitive environments. Additionally, ATC consulted with the North Carolina State Historic Preservation Office to determine if any archaeological sites or historical sites were located within one-half mile of the site. No archaeological sites were found within one-half mile. No historic places were listed in the National Register of Historic Places within one-half mile of the site, but according to Natural Heritage Program

website the nearby Winter Park School (NH0619), located 1,000 feet east, is eligible for listing.

5. Are there any areas on or within one-half mile of the site owned or used by local tribes?

Based on site observations and the North Carolina Department of Cultural Resources (NCDRC), no tribal artifacts or lands have been identified on or within one-half mile of the site. The Native American Consultation Database maintained by the National Park Service did not indicate any tribal areas are located within a one-half mile radius of the site.

A response from the NCDRC is included in **Attachment 4**.

6. Are there any habitat, foraging area or refuge by rare, threatened, endangered, candidate and/or proposed species (plants or animals), or any otherwise protected species on or within one-half mile of the site?

According to the North Carolina Natural Heritage Database, there is no habitat, foraging area, or refuge utilized by rare, threatened, endangered, candidate and/or proposed species (plants and animals), or any otherwise protected species on or within one-half mile of the site. This area is heavily developed with commercial properties.

Based on the USFWS online databases, there are no wilderness areas or wildlife refuges within one-half mile of the site.

7. Are there any breeding, roosting or feeding areas by migratory bird species on or within one-half mile of the site?

ATC obtained a list of birds that have been identified in New Hanover County from www.carolinabirdclub.org (see **Attachment 1**). The list includes several migratory bird species. The National Audubon Society has identified 96 Important Bird Areas (IBAs) in North Carolina, comprising 4.9 million acres (<http://nc.audubon.org/conservation/important-bird-areas>). IBAs are defined as “places that provide essential habitat for one or more species of birds at some time during their annual cycle of breeding, migrating or wintering”. Four IBAs are located in New Hanover County: Ferry Slip Island, Masonboro Island, North Pelican Island, and Onslow Bay. The presence of migratory bird habitat has been identified at all four IBAs. However, the IBAs are beyond 0.5 miles from the site. The Atlantic Flyway is one of four principal bird migration pathways in the United States, encompassing all of the states on the eastern coast, including North Carolina. Accordingly, it is possible that migratory birds pass over the site and the area within 0.5 miles of the site during their migration, and may roost/feed during their migration.

8. Are there any ecologically, recreationally, or commercially important species on or within one-half mile of the site?

The site is located in an urban environment with mostly commercial, retail and residential properties surrounding the property. It is unlikely that recreational or commercially important species are within the developed areas within one-half mile of the site. However, two tributaries to Hewletts Creek, which ultimately drains in to the Atlantic Ocean, are located

within one-half mile of the site, and it is possible that ecologically important species may exist within these sensitive environments.

9. Are there any threatened and/or endangered species (plant or animal) on or within one-half mile of the site?

ATC reviewed the USFWS online species list. Several endangered and threatened species were identified within New Hanover County. Examples of endangered and threatened species identified within New Hanover County include the Red-Cockaded Woodpecker, Rough-leaved loosestrife, Golden Sedge, Northern Long-Eared Bat, Loggerhead Sea Turtle, and Magnificent Ramshorn. The USFWS list of endangered species, threatened species, federal species of concern and candidate species in New Hanover County is included in **Attachment 2**.

ATC also reviewed the North Carolina Heritage Program Wilmington USGS Topographic Quadrangle species list. Species identified include the Mabee's Salamander, American Alligator, Eastern Diamondback Rattlesnake, and West Indian Manatee. Refer to **Attachment 3** for the complete list of species.

The majority of the area within one-half mile of the site consists of developed commercial properties. It is unlikely that the above-referenced species are located on these properties.

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Checklist B

1A. Can chemicals associated with the site leach, dissolve, or otherwise migrate to groundwater?

Yes. The primary constituents of concern at the site, benzene, ethylbenzene, naphthalene, xylenes, and additional total petroleum hydrocarbons, are leachable to groundwater ranging from low to high rates depending upon the constituent according to the Agency for Toxic Substances and Disease Registry (ATSDR). These constituents were also confirmed to be present in the groundwater at the site.

1B. Are chemicals associated with the site mobile in groundwater?

Yes. The primary constituents of concern at the site, benzene, ethylbenzene, naphthalene, xylenes, and additional total petroleum hydrocarbons, are considered to be mobile in groundwater ranging from low to high rates depending upon the constituent according to the ATSDR. These constituents were also confirmed to be present in the groundwater at the site.

1C. Does groundwater from the site discharge to ecological receptor habitat?

The primary ecological receptor habitats identified in the site vicinity are the two tributaries flowing towards Hewletts Creek within one-half mile of the site. Groundwater does not flow towards these surface water bodies. Also, sampling of the groundwater monitoring well located furthest downgradient, MW-5, showed low concentrations of contaminants below respective Title 15A NCAC 02L .0202 Groundwater Quality Standards (2L Standards). These ecological receptor habitats are not a significant concern as the impacted groundwater does not appear likely to discharge to these ecological receptor habitat.

1. Could chemicals associated with the site reach ecological receptors through groundwater?

The primary ecological receptor habitats identified in the site vicinity are the two tributaries flowing towards Hewletts Creek within one-half mile of the site. Groundwater flows away from these surface water bodies. Also, sampling of the groundwater monitoring well located furthest downgradient, MW-5, showed low concentrations of contaminants below respective 2L standards. Based on these data, there is no potential impact to these areas.

2A. Are chemicals present in surface soils on the site?

No. Chemicals are not present in surface soils on the site. The shallowest soil impacts are identified at 2.5 feet below ground surface.

2B. Can chemicals be leached from or be transported by erosion of surface soils on the site?

Yes. Hydrocarbon constituents can be leached from the soil. However, the area of impacted soil is mostly covered with asphalt and concrete and erosion is unlikely.

2. Could chemicals associated with the site reach ecological receptors through runoff or erosion?

As discussed above, ATC considers the potential for erosion to be low. In addition, since the subject property is covered by commercial development, the potential for ecological receptors to be present is low.

3A. Are chemicals present in surface soil or on the surface of the ground?

No. Chemicals are not present in surface soils on the site. The shallowest soil impacts are identified at 2.5 feet below ground surface.

3B. Are potential ecological receptors on the site?

No. There is no evidence of ecological receptors at the site. Also, the site is mostly covered with asphalt and concrete, so ecological receptors appear unlikely to be present in the area.

3. Could chemicals associated with the site reach ecological receptors through direct contact?

As discussed above, ecological receptors are unlikely to be present at the site. Furthermore, chemicals are not present in surface soils as the shallowest soil impacts are identified at 2.5 feet below ground surface.

4A. Are chemicals on the site volatile?

Yes. Hydrocarbon constituents are considered volatile organic compounds.

4B. Could chemicals on the site be transported in air as dust or particulate matter?

No. The soil impact is located under an area paved with asphalt and concrete. It is unlikely that chemicals on the site can be transported in air or as particulate matter.

4. Could chemicals associated with the site reach ecological receptors through inhalation of volatilized chemicals or adhered chemicals to dust in ambient air or in subsurface burrows?

As discussed above, significant erosion of impacted soils or significant volatilization from impacted soil appears unlikely.

5A. Is Non-Aqueous Phase Liquid (NAPL) present at the site?

No. NAPL has not been encountered at the site.

5B. Is NAPL migrating?

No. NAPL has not been encountered at the site.

5C. Could NAPL discharge occur where ecological receptors are found?

No. NAPL has not been encountered at the site.

5. Could chemicals associated with the site reach ecological receptors through migration of NAPL?

Not applicable as NAPL was not identified at the site.

6A. Are chemicals present in surface and shallow subsurface soils or on the surface of the ground?

Yes. Impacted shallow subsurface soils are present at the site at 2.5 feet below ground surface.

6B. Are chemicals found in soil on the site taken up by plants growing on the site?

Since shallow subsurface soils have been impacted at the site, chemicals could potentially be taken up by the plant root system. However, the property is mostly covered with asphalt, and is currently used as a parking lot. It is unlikely that chemicals will be taken up by the plant root system.

6C. Do potential ecological receptors on or near the site feed on plants (e.g., grasses, shrubs, forbs, trees, etc.) found on the site?

It is possible that migratory birds could be present in the site area. However, migratory birds are considered unlikely to be in the area on a regular basis since the site is located in an active commercial area and near busy roadways.

6D. Do chemicals found on the site bioaccumulate?

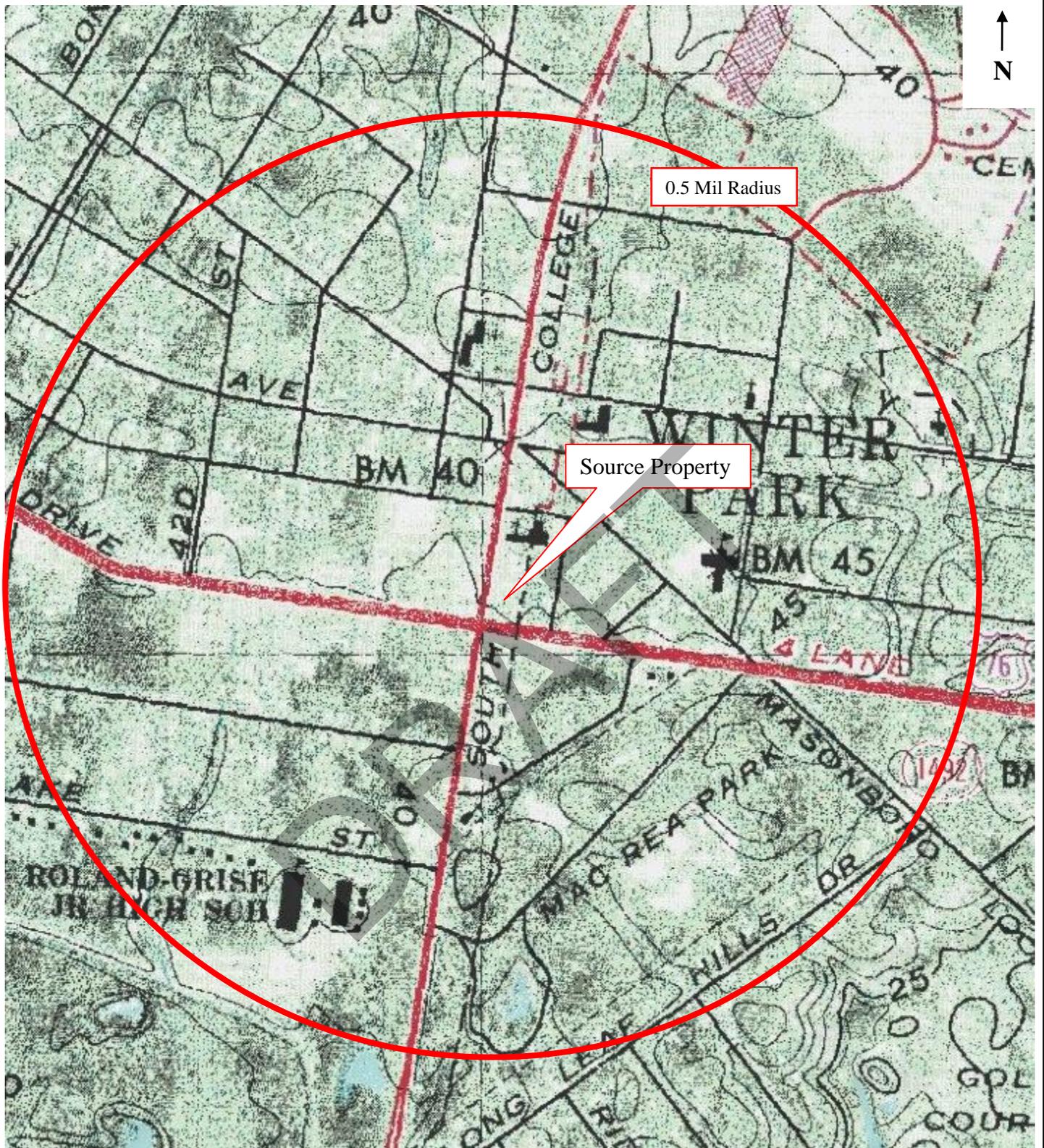
Based on published references (ATSDR), xylenes can bioaccumulate to modest levels while benzene, ethylbenzene, and naphthalene do not readily bioaccumulate.

6. Could chemicals associated with the site reach ecological receptors through direct ingestion of soil, plants, animals, or contaminants?

Based on the commercial site environment and the minimal impact or absence of bioaccumulation for the chemicals of concern, it is not anticipated that chemicals associated with the site would reach ecological receptors through direct ingestion of soil, plants, animals, or contaminants. In the case of xylenes, the ATSDR notes that bioaccumulation up the food chain is unlikely.

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FIGURES



Source: My Free Topo Map



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Raleigh, NC 27604
(919) 871-0999

PROJECT NO: DC650013

REVIEWED BY: AW

SCALE: 1" = 1,625'

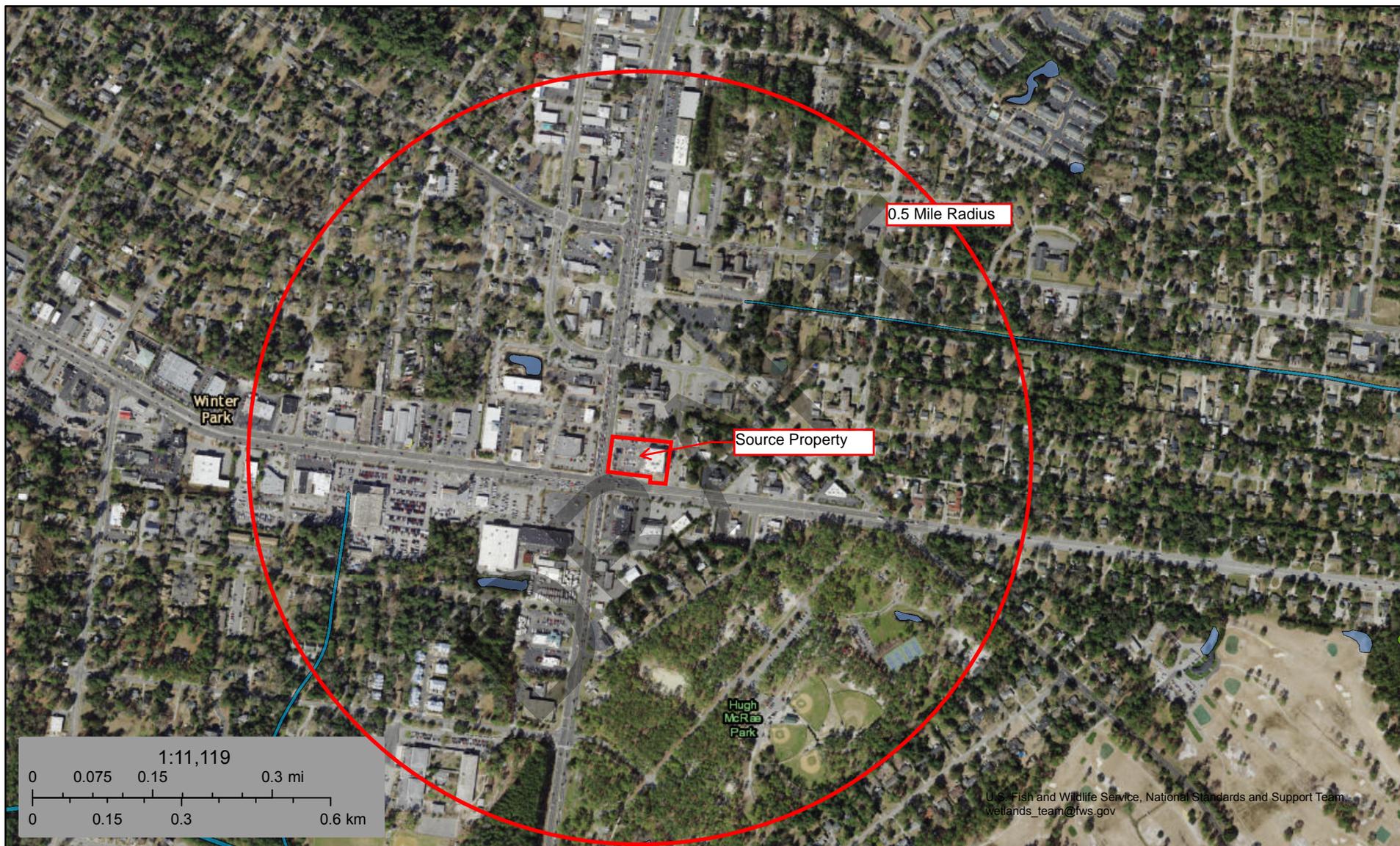
DATE: 2/12/2019

USGS TOPOGRAPHIC MAP

WINTER PARK CLEANERS

DSCA # DC650013

1437 S. COLLEGE ROAD
WILMINGTON, NORTH CAROLINA



January 21, 2019

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

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**ATTACHMENT 1
MIGRATORY BIRD SPECIES LIST**

Birds of North Carolina: their Distribution and Abundance

Birds of NC Home

Recent Records

Recent Accounts

County Listing

Query Database

CBC Home

Definitive/Provisional List

Not Established List

Formerly Accepted Species

NC Checklist

[NC Biodiversity Project](#)

Birds of North Carolina - County Listing

No distinction is made between transient and resident records for a county. The majority of the records are from **eBird** and the **Chat**.

[Email](#) Harry LeGrand with any questions. If you would like to submit a record for a species that you have personally sighted in a county not listed for that species, click this [link](#).

Search by:

Search by:

New Hanover - 361 species

Ducks, Geese, & Swans - 39 species

New World Quails - 1 species

Grouse and Allies - 1 species

Grebes - 5 species

1 Black-bellied Whistling-Duck	<i>Dendrocygna autumnalis</i>
2 Fulvous Whistling-Duck	<i>Dendrocygna bicolor</i>
3 Snow Goose	<i>Anser caerulescens</i>
4 Ross's Goose	<i>Anser rossii</i>
5 Greater White-fronted Goose	<i>Anser albifrons</i>
6 Brant	<i>Branta bernicla</i>
7 Canada Goose	<i>Branta canadensis</i>
8 Mute Swan	<i>Cygnus olor</i>
9 Tundra Swan	<i>Cygnus columbianus</i>
10 Wood Duck	<i>Aix sponsa</i>
11 Blue-winged Teal	<i>Spatula discors</i>
12 Cinnamon Teal	<i>Spatula cyanoptera</i>
13 Northern Shoveler	<i>Spatula clypeata</i>
14 Gadwall	<i>Mareca strepera</i>
15 Eurasian Wigeon	<i>Mareca penelope</i>
16 American Wigeon	<i>Mareca americana</i>
17 Mallard	<i>Anas platyrhynchos</i>
18 American Black Duck	<i>Anas rubripes</i>
19 Mottled Duck	<i>Anas fulvigula</i>
20 Northern Pintail	<i>Anas acuta</i>
21 Green-winged Teal	<i>Anas crecca</i>
22 Canvasback	<i>Aythya valisineria</i>
23 Redhead	<i>Aythya americana</i>
24 Ring-necked Duck	<i>Aythya collaris</i>
25 Greater Scaup	<i>Aythya marila</i>
26 Lesser Scaup	<i>Aythya affinis</i>
27 King Eider	<i>Somateria spectabilis</i>
28 Common Eider	<i>Somateria mollissima</i>
29 Harlequin Duck	<i>Histrionicus histrionicus</i>
30 Surf Scoter	<i>Melanitta perspicillata</i>
31 White-winged Scoter	<i>Melanitta fusca</i>
32 Black Scoter	<i>Melanitta americana</i>
33 Long-tailed Duck	<i>Clangula hyemalis</i>
34 Bufflehead	<i>Bucephala albeola</i>
35 Common Goldeneye	<i>Bucephala clangula</i>
36 Hooded Merganser	<i>Lophodytes cucullatus</i>
37 Common Merganser	<i>Mergus merganser</i>
38 Red-breasted Merganser	<i>Mergus serrator</i>
39 Ruddy Duck	<i>Oxyura jamaicensis</i>
40 Northern Bobwhite	<i>Colinus virginianus</i>
41 Wild Turkey	<i>Meleagris gallopavo</i>
42 Pied-billed Grebe	<i>Podilymbus podiceps</i>
43 Horned Grebe	<i>Podiceps auritus</i>

	44 Red-necked Grebe	<i>Podiceps grisegena</i>
	45 Eared Grebe	<i>Podiceps nigricollis</i>
	46 Western Grebe	<i>Aechmophorus occidentalis</i>
Doves - 5 species	47 Rock Pigeon	<i>Columba livia</i>
	48 Eurasian Collared-Dove	<i>Streptopelia decaocto</i>
	49 Common Ground-Dove	<i>Columbina passerina</i>
	50 White-winged Dove	<i>Zenaida asiatica</i>
	51 Mourning Dove	<i>Zenaida macroura</i>
Cuckoos & Anis - 1 species	52 Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Goatsuckers - 3 species	53 Common Nighthawk	<i>Chordeiles minor</i>
	54 Chuck-will's-widow	<i>Antrostomus carolinensis</i>
	55 Eastern Whip-poor-will	<i>Antrostomus vociferus</i>
Swifts - 1 species	56 Chimney Swift	<i>Chaetura pelagica</i>
Hummingbirds - 3 species	57 Ruby-throated Hummingbird	<i>Archilochus colubris</i>
	58 Black-chinned Hummingbird	<i>Archilochus alexandri</i>
	59 Rufous Hummingbird	<i>Selasphorus rufus</i>
Rails, Gallinules, & Coots - 8 species	60 Black Rail	<i>Laterallus jamaicensis</i>
	61 Clapper Rail	<i>Rallus crepitans</i>
	62 King Rail	<i>Rallus elegans</i>
	63 Virginia Rail	<i>Rallus limicola</i>
	64 Sora	<i>Porzana carolina</i>
	65 Purple Gallinule	<i>Porphyrio martinicus</i>
	66 Common Gallinule	<i>Gallinula galeata</i>
	67 American Coot	<i>Fulica americana</i>
Cranes - 1 species	68 Sandhill Crane	<i>Antigone canadensis</i>
Stilts & Avocets - 2 species	69 Black-necked Stilt	<i>Himantopus mexicanus</i>
	70 American Avocet	<i>Recurvirostra americana</i>
Oystercatchers - 1 species	71 American Oystercatcher	<i>Haematopus palliatus</i>
Plovers - 7 species	72 Black-bellied Plover	<i>Pluvialis squatarola</i>
	73 American Golden-Plover	<i>Pluvialis dominica</i>
	74 Snowy Plover	<i>Charadrius nivosus</i>
	75 Wilson's Plover	<i>Charadrius wilsonia</i>
	76 Semipalmated Plover	<i>Charadrius semipalmatus</i>
	77 Piping Plover	<i>Charadrius melodus</i>
	78 Killdeer	<i>Charadrius vociferus</i>
Sandpipers - 33 species	79 Upland Sandpiper	<i>Bartramia longicauda</i>
	80 Whimbrel	<i>Numenius phaeopus</i>
	81 Long-billed Curlew	<i>Numenius americanus</i>
	82 Hudsonian Godwit	<i>Limosa haemastica</i>
	83 Marbled Godwit	<i>Limosa fedoa</i>
	84 Ruddy Turnstone	<i>Arenaria interpres</i>
	85 Red Knot	<i>Calidris canutus</i>
	86 Ruff	<i>Calidris pugnax</i>
	87 Sharp-tailed Sandpiper	<i>Calidris acuminata</i>
	88 Stilt Sandpiper	<i>Calidris himantopus</i>
	89 Curlew Sandpiper	<i>Calidris ferruginea</i>
	90 Sanderling	<i>Calidris alba</i>
	91 Dunlin	<i>Calidris alpina</i>
	92 Purple Sandpiper	<i>Calidris maritima</i>
	93 Baird's Sandpiper	<i>Calidris bairdii</i>
	94 Least Sandpiper	<i>Calidris minutilla</i>
	95 White-rumped Sandpiper	<i>Calidris fuscicollis</i>
	96 Buff-breasted Sandpiper	<i>Calidris subruficollis</i>
	97 Pectoral Sandpiper	<i>Calidris melanotos</i>
	98 Semipalmated Sandpiper	<i>Calidris pusilla</i>
	99 Western Sandpiper	<i>Calidris mauri</i>
	100 Short-billed Dowitcher	<i>Limnodromus griseus</i>
	101 Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>

	102	American Woodcock	<i>Scolopax minor</i>
	103	Wilson's Snipe	<i>Gallinago delicata</i>
	104	Spotted Sandpiper	<i>Actitis macularius</i>
	105	Solitary Sandpiper	<i>Tringa solitaria</i>
	106	Lesser Yellowlegs	<i>Tringa flavipes</i>
	107	Willet	<i>Tringa semipalmata</i>
	108	Greater Yellowlegs	<i>Tringa melanoleuca</i>
	109	Wilson's Phalarope	<i>Phalaropus tricolor</i>
	110	Red-necked Phalarope	<i>Phalaropus lobatus</i>
	111	Red Phalarope	<i>Phalaropus fulicarius</i>
Skuas & Jaegers - 3 species	112	South Polar Skua	<i>Stercorarius maccormicki</i>
	113	Pomarine Jaeger	<i>Stercorarius pomarinus</i>
	114	Parasitic Jaeger	<i>Stercorarius parasiticus</i>
Auks - 4 species	115	Dovekie	<i>Alle alle</i>
	116	Thick-billed Murre	<i>Uria lomvia</i>
	117	Razorbill	<i>Alca torda</i>
	118	Black Guillemot	<i>Cephus grylle</i>
Gulls & Terns - 26 species	119	Black-legged Kittiwake	<i>Rissa tridactyla</i>
	120	Sabine's Gull	<i>Xema sabini</i>
	121	Bonaparte's Gull	<i>Chroicocephalus philadelphia</i>
	122	Black-headed Gull	<i>Chroicocephalus ridibundus</i>
	123	Little Gull	<i>Hydrocoloeus minutus</i>
	124	Laughing Gull	<i>Leucophaeus atricilla</i>
	125	Franklin's Gull	<i>Leucophaeus pipixcan</i>
	126	Ring-billed Gull	<i>Larus delawarensis</i>
	127	Herring Gull	<i>Larus argentatus</i>
	128	Iceland Gull	<i>Larus glaucooides</i>
	129	Lesser Black-backed Gull	<i>Larus fuscus</i>
	130	Glaucous Gull	<i>Larus hyperboreus</i>
	131	Great Black-backed Gull	<i>Larus marinus</i>
	132	Sooty Tern	<i>Onychoprion fuscatus</i>
	133	Bridled Tern	<i>Onychoprion anaethetus</i>
	134	Least Tern	<i>Sternula antillarum</i>
	135	Gull-billed Tern	<i>Gelochelidon nilotica</i>
	136	Caspian Tern	<i>Hydroprogne caspia</i>
	137	Black Tern	<i>Chlidonias niger</i>
	138	Roseate Tern	<i>Sterna dougallii</i>
	139	Common Tern	<i>Sterna hirundo</i>
	140	Arctic Tern	<i>Sterna paradisaea</i>
	141	Forster's Tern	<i>Sterna forsteri</i>
	142	Royal Tern	<i>Thalasseus maximus</i>
	143	Sandwich Tern	<i>Thalasseus sandvicensis</i>
	144	Black Skimmer	<i>Rynchops niger</i>
Tropicbirds - 1 species	145	Red-billed Tropicbird	<i>Phaethon aethereus</i>
Loons - 3 species	146	Red-throated Loon	<i>Gavia stellata</i>
	147	Pacific Loon	<i>Gavia pacifica</i>
	148	Common Loon	<i>Gavia immer</i>
Storm-Petrels - 3 species	149	Wilson's Storm-Petrel	<i>Oceanites oceanicus</i>
	150	White-faced Storm-Petrel	<i>Pelagodroma marina</i>
	151	Leach's Storm-Petrel	<i>Oceanodroma leucorhoa</i>
Petrels & Shearwaters - 6 species	152	Northern Fulmar	<i>Fulmarus glacialis</i>
	153	Trindade Petrel	<i>Pterodroma arminjoniana</i>
	154	Cory's Shearwater	<i>Calonectris diomedea</i>
	155	Sooty Shearwater	<i>Ardenna grisea</i>
	156	Great Shearwater	<i>Ardenna gravis</i>
	157	Audubon's Shearwater	<i>Puffinus lherminieri</i>
Storks - 1 species	158	Wood Stork	<i>Mycteria americana</i>
Frigatebirds - 1 species	159	Magnificent Frigatebird	<i>Fregata magnificens</i>

Boobies & Gannets - 3 species	160 Masked Booby	<i>Sula dactylatra</i>
	161 Brown Booby	<i>Sula leucogaster</i>
	162 Northern Gannet	<i>Morus bassanus</i>
Cormorants - 2 species	163 Double-crested Cormorant	<i>Phalacrocorax auritus</i>
	164 Great Cormorant	<i>Phalacrocorax carbo</i>
Darters - 1 species	165 Anhinga	<i>Anhinga anhinga</i>
Pelicans - 2 species	166 American White Pelican	<i>Pelecanus erythrorhynchos</i>
	167 Brown Pelican	<i>Pelecanus occidentalis</i>
Bitterns, Herons, & Allies - 12 species	168 American Bittern	<i>Botaurus lentiginosus</i>
	169 Least Bittern	<i>Ixobrychus exilis</i>
	170 Great Blue Heron	<i>Ardea herodias</i>
	171 Great Egret	<i>Ardea alba</i>
	172 Snowy Egret	<i>Egretta thula</i>
	173 Little Blue Heron	<i>Egretta caerulea</i>
	174 Tricolored Heron	<i>Egretta tricolor</i>
	175 Reddish Egret	<i>Egretta rufescens</i>
	176 Cattle Egret	<i>Bubulcus ibis</i>
	177 Green Heron	<i>Butorides virescens</i>
	178 Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
	179 Yellow-crowned Night-Heron	<i>Nyctanassa violacea</i>
Ibises & Spoonbills - 3 species	180 White Ibis	<i>Eudocimus albus</i>
	181 Glossy Ibis	<i>Plegadis falcinellus</i>
	182 Roseate Spoonbill	<i>Platalea ajaja</i>
New World Vultures - 2 species	183 Black Vulture	<i>Coragyps atratus</i>
	184 Turkey Vulture	<i>Cathartes aura</i>
Osprey - 1 species	185 Osprey	<i>Pandion haliaetus</i>
Kites, Eagles, & Hawks - 11 species	186 White-tailed Kite	<i>Elanus leucurus</i>
	187 Swallow-tailed Kite	<i>Elanoides forficatus</i>
	188 Northern Harrier	<i>Circus hudsonius</i>
	189 Sharp-shinned Hawk	<i>Accipiter striatus</i>
	190 Cooper's Hawk	<i>Accipiter cooperii</i>
	191 Bald Eagle	<i>Haliaeetus leucocephalus</i>
	192 Mississippi Kite	<i>Ictinia mississippiensis</i>
	193 Red-shouldered Hawk	<i>Buteo lineatus</i>
	194 Broad-winged Hawk	<i>Buteo platypterus</i>
	195 Swainson's Hawk	<i>Buteo swainsoni</i>
	196 Red-tailed Hawk	<i>Buteo jamaicensis</i>
Barn-Owls - 1 species	197 Barn Owl	<i>Tyto alba</i>
Owls - 8 species	198 Eastern Screech-Owl	<i>Megascops asio</i>
	199 Great Horned Owl	<i>Bubo virginianus</i>
	200 Snowy Owl	<i>Bubo scandiacus</i>
	201 Burrowing Owl	<i>Athene cunicularia</i>
	202 Barred Owl	<i>Strix varia</i>
	203 Long-eared Owl	<i>Asio otus</i>
	204 Short-eared Owl	<i>Asio flammeus</i>
	205 Northern Saw-whet Owl	<i>Aegolius acadicus</i>
Kingfishers - 1 species	206 Belted Kingfisher	<i>Megasceryle alcyon</i>
Woodpeckers - 9 species	207 Red-headed Woodpecker	<i>Melanerpes erythrocephalus</i>
	208 Red-bellied Woodpecker	<i>Melanerpes carolinus</i>
	209 Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>
	210 Downy Woodpecker	<i>Dryobates pubescens</i>
	211 Red-cockaded Woodpecker	<i>Dryobates borealis</i>
	212 Hairy Woodpecker	<i>Dryobates villosus</i>
	213 Northern Flicker	<i>Colaptes auratus</i>
	214 Pileated Woodpecker	<i>Dryocopus pileatus</i>
	215 Ivory-billed Woodpecker	<i>Campephilus principalis</i>
Falcons - 3 species	216 American Kestrel	<i>Falco sparverius</i>
	217 Merlin	<i>Falco columbarius</i>

	218	Peregrine Falcon	<i>Falco peregrinus</i>
Tyrant Flycatchers - 12 species	219	Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>
	220	Great Crested Flycatcher	<i>Myiarchus crinitus</i>
	221	Western Kingbird	<i>Tyrannus verticalis</i>
	222	Eastern Kingbird	<i>Tyrannus tyrannus</i>
	223	Gray Kingbird	<i>Tyrannus dominicensis</i>
	224	Scissor-tailed Flycatcher	<i>Tyrannus forficatus</i>
	225	Olive-sided Flycatcher	<i>Contopus cooperi</i>
	226	Eastern Wood-Pewee	<i>Contopus virens</i>
	227	Yellow-bellied Flycatcher	<i>Empidonax flaviventris</i>
	228	Acadian Flycatcher	<i>Empidonax vireescens</i>
	229	Least Flycatcher	<i>Empidonax minimus</i>
	230	Eastern Phoebe	<i>Sayornis phoebe</i>
Shrikes - 1 species	231	Loggerhead Shrike	<i>Lanius ludovicianus</i>
Vireos - 7 species	232	White-eyed Vireo	<i>Vireo griseus</i>
	233	Bell's Vireo	<i>Vireo bellii</i>
	234	Yellow-throated Vireo	<i>Vireo flavifrons</i>
	235	Blue-headed Vireo	<i>Vireo solitarius</i>
	236	Philadelphia Vireo	<i>Vireo philadelphicus</i>
	237	Red-eyed Vireo	<i>Vireo olivaceus</i>
	238	Black-whiskered Vireo	<i>Vireo altiloquus</i>
Jays, Crows, & Ravens - 3 species	239	Blue Jay	<i>Cyanocitta cristata</i>
	240	American Crow	<i>Corvus brachyrhynchos</i>
	241	Fish Crow	<i>Corvus ossifragus</i>
Swallows - 7 species	242	Purple Martin	<i>Progne subis</i>
	243	Tree Swallow	<i>Tachycineta bicolor</i>
	244	Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>
	245	Bank Swallow	<i>Riparia riparia</i>
	246	Cliff Swallow	<i>Petrochelidon pyrrhonota</i>
	247	Cave Swallow	<i>Petrochelidon fulva</i>
	248	Barn Swallow	<i>Hirundo rustica</i>
Chickadees & Titmice - 2 species	249	Carolina Chickadee	<i>Poecile carolinensis</i>
	250	Tufted Titmouse	<i>Baeolophus bicolor</i>
Nuthatches - 3 species	251	Red-breasted Nuthatch	<i>Sitta canadensis</i>
	252	White-breasted Nuthatch	<i>Sitta carolinensis</i>
	253	Brown-headed Nuthatch	<i>Sitta pusilla</i>
Treecreepers - 1 species	254	Brown Creeper	<i>Certhia americana</i>
Wrens - 5 species	255	House Wren	<i>Troglodytes aedon</i>
	256	Winter Wren	<i>Troglodytes hiemalis</i>
	257	Sedge Wren	<i>Cistothorus platensis</i>
	258	Marsh Wren	<i>Cistothorus palustris</i>
	259	Carolina Wren	<i>Thryothorus ludovicianus</i>
Gnatcatchers - 1 species	260	Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
Kinglets - 2 species	261	Golden-crowned Kinglet	<i>Regulus satrapa</i>
	262	Ruby-crowned Kinglet	<i>Regulus calendula</i>
Thrushes - 7 species	263	Eastern Bluebird	<i>Sialia sialis</i>
	264	Veery	<i>Catharus fuscescens</i>
	265	Gray-cheeked Thrush	<i>Catharus minimus</i>
	266	Swainson's Thrush	<i>Catharus ustulatus</i>
	267	Hermit Thrush	<i>Catharus guttatus</i>
	268	Wood Thrush	<i>Hylocichla mustelina</i>
	269	American Robin	<i>Turdus migratorius</i>
Mockingbirds & Thrashers - 3 species	270	Gray Catbird	<i>Dumetella carolinensis</i>
	271	Brown Thrasher	<i>Toxostoma rufum</i>
	272	Northern Mockingbird	<i>Mimus polyglottos</i>
Starlings - 1 species	273	European Starling	<i>Sturnus vulgaris</i>
Waxwings - 1 species	274	Cedar Waxwing	<i>Bombycilla cedrorum</i>
Old World Sparrows - 1 species	275	House Sparrow	<i>Passer domesticus</i>

Wagtails & Pipits - 1 species	276 American Pipit	<i>Anthus rubescens</i>
Cardueline Finches & Allies - 6 species	277 Evening Grosbeak	<i>Coccothraustes vespertinus</i>
	278 House Finch	<i>Haemorhous mexicanus</i>
	279 Purple Finch	<i>Haemorhous purpureus</i>
	280 Red Crossbill	<i>Loxia curvirostra</i>
	281 Pine Siskin	<i>Spinus pinus</i>
	282 American Goldfinch	<i>Spinus tristis</i>
Longspurs & Allies - 3 species	283 Lapland Longspur	<i>Calcarius lapponicus</i>
	284 Chestnut-collared Longspur	<i>Calcarius ornatus</i>
	285 Snow Bunting	<i>Plectrophenax nivalis</i>
New World Sparrows & Allies - 20 species	286 Eastern Towhee	<i>Pipilo erythrophthalmus</i>
	287 Bachman's Sparrow	<i>Peucaea aestivalis</i>
	288 Chipping Sparrow	<i>Spizella passerina</i>
	289 Clay-colored Sparrow	<i>Spizella pallida</i>
	290 Field Sparrow	<i>Spizella pusilla</i>
	291 Vesper Sparrow	<i>Pooecetes gramineus</i>
	292 Lark Sparrow	<i>Chondestes grammacus</i>
	293 Savannah Sparrow	<i>Passerculus sandwichensis</i>
	294 Grasshopper Sparrow	<i>Ammodramus savannarum</i>
	295 Henslow's Sparrow	<i>Centronyx henslowii</i>
	296 Seaside Sparrow	<i>Ammospiza maritima</i>
	297 Nelson's Sparrow	<i>Ammospiza nelsoni</i>
	298 Saltmarsh Sparrow	<i>Ammospiza caudacuta</i>
	299 Fox Sparrow	<i>Passerella iliaca</i>
	300 Song Sparrow	<i>Melospiza melodia</i>
	301 Lincoln's Sparrow	<i>Melospiza lincolni</i>
	302 Swamp Sparrow	<i>Melospiza georgiana</i>
	303 White-throated Sparrow	<i>Zonotrichia albicollis</i>
	304 White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
	305 Dark-eyed Junco	<i>Junco hyemalis</i>
Yellow-breasted Chat - 1 species	306 Yellow-breasted Chat	<i>Icteria virens</i>
Blackbirds & Orioles - 12 species	307 Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>
	308 Bobolink	<i>Dolichonyx oryzivorus</i>
	309 Eastern Meadowlark	<i>Sturnella magna</i>
	310 Orchard Oriole	<i>Icterus spurius</i>
	311 Bullock's Oriole	<i>Icterus bullockii</i>
	312 Baltimore Oriole	<i>Icterus galbula</i>
	313 Red-winged Blackbird	<i>Agelaius phoeniceus</i>
	314 Shiny Cowbird	<i>Molothrus bonariensis</i>
	315 Brown-headed Cowbird	<i>Molothrus ater</i>
	316 Rusty Blackbird	<i>Euphagus carolinus</i>
	317 Common Grackle	<i>Quiscalus quiscula</i>
	318 Boat-tailed Grackle	<i>Quiscalus major</i>
Wood-Warblers - 34 species	319 Ovenbird	<i>Seiurus aurocapilla</i>
	320 Worm-eating Warbler	<i>Helmitheros vermivorum</i>
	321 Louisiana Waterthrush	<i>Parkesia motacilla</i>
	322 Northern Waterthrush	<i>Parkesia noveboracensis</i>
	323 Golden-winged Warbler	<i>Vermivora chrysoptera</i>
	324 Blue-winged Warbler	<i>Vermivora cyanoptera</i>
	325 Black-and-white Warbler	<i>Mniotilta varia</i>
	326 Prothonotary Warbler	<i>Protonotaria citrea</i>
	327 Swainson's Warbler	<i>Limnithlypis swainsonii</i>
	328 Tennessee Warbler	<i>Oreothlypis peregrina</i>
	329 Orange-crowned Warbler	<i>Oreothlypis celata</i>
	330 Nashville Warbler	<i>Oreothlypis ruficapilla</i>
	331 Connecticut Warbler	<i>Oporornis agilis</i>
	332 Mourning Warbler	<i>Geothlypis philadelphia</i>
	333 Common Yellowthroat	<i>Geothlypis trichas</i>

	334	Hooded Warbler	<i>Setophaga citrina</i>
	335	American Redstart	<i>Setophaga ruticilla</i>
	336	Cape May Warbler	<i>Setophaga tigrina</i>
	337	Northern Parula	<i>Setophaga americana</i>
	338	Magnolia Warbler	<i>Setophaga magnolia</i>
	339	Bay-breasted Warbler	<i>Setophaga castanea</i>
	340	Blackburnian Warbler	<i>Setophaga fusca</i>
	341	Yellow Warbler	<i>Setophaga petechia</i>
	342	Chestnut-sided Warbler	<i>Setophaga pensylvanica</i>
	343	Black-throated Blue Warbler	<i>Setophaga caerulescens</i>
	344	Palm Warbler	<i>Setophaga palmarum</i>
	345	Pine Warbler	<i>Setophaga pinus</i>
	346	Yellow-rumped Warbler	<i>Setophaga coronata</i>
	347	Yellow-throated Warbler	<i>Setophaga dominica</i>
	348	Prairie Warbler	<i>Setophaga discolor</i>
	349	Black-throated Gray Warbler	<i>Setophaga nigrescens</i>
	350	Black-throated Green Warbler	<i>Setophaga virens</i>
	351	Canada Warbler	<i>Cardellina canadensis</i>
	352	Wilson's Warbler	<i>Cardellina pusilla</i>
Cardinals, Grosbeaks, & Allies - 9 species	353	Summer Tanager	<i>Piranga rubra</i>
	354	Scarlet Tanager	<i>Piranga olivacea</i>
	355	Western Tanager	<i>Piranga ludoviciana</i>
	356	Northern Cardinal	<i>Cardinalis cardinalis</i>
	357	Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>
	358	Blue Grosbeak	<i>Passerina caerulea</i>
	359	Indigo Bunting	<i>Passerina cyanea</i>
	360	Painted Bunting	<i>Passerina ciris</i>
	361	Dickcissel	<i>Spiza americana</i>

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ATTACHMENT 2

**USFWS ENDANGERED SPECIES, THREATENED SPECIES, FEDERAL SPECIES OF
CONCERN AND CANDIDATE SPECIES LIST**

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U.S. Fish & Wildlife Service

ECOSECOS / [Species Reports](#) / Species By County Report

Species By County Report

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [IPaC](#) application.

County: New Hanover, North Carolina

[Download CSV](#)Need to contact a FWS field office about a species? Follow [this link](#) to find your local FWS Office.

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Birds	Red-cockaded woodpecker (<i>Picoides borealis</i>)	Wherever found	Endangered	Mississippi Ecological Services Field Office	Red-cockaded Woodpecker Recovery Plan, Second Revision	Implementation Progress	Final Revision 2
Birds	Piping Plover (<i>Charadrius melodus</i>)	[Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.	Threatened	Office of the Regional Director	Piping Plover Atlantic Coast Population Revised Recovery Plan	Implementation Progress	Final Revision 1
Birds	Piping Plover (<i>Charadrius melodus</i>)	[Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered.	Threatened	Office of the Regional Director	Volume I: Draft Revised Recovery Plan for the Northern Great Plains Piping Plover (Charadrius melodus)	Recovery efforts in progress, but no implementation information yet to display.	Draft Revision 1

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Birds	Red knot (<i>Calidris canutus rufa</i>)	Wherever found	Threatened	New Jersey Ecological Services Field Office			
Flowering Plants	Cooley's meadowrue (<i>Thalictrum cooleyi</i>)	Wherever found	Endangered	Raleigh Ecological Services Field Office	<u>Cooley's Meadowrue</u>	<u>Implementation Progress</u>	Final
Flowering Plants	Rough-leaved loosestrife (<i>Lysimachia asperulaefolia</i>)	Wherever found	Endangered	Raleigh Ecological Services Field Office	<u>Rough-leaved Loosestrife</u>	<u>Implementation Progress</u>	Final
Flowering Plants	Seabeach amaranth (<i>Amaranthus pumilus</i>)	Wherever found	Threatened	Raleigh Ecological Services Field Office	<u>Seabeach Amaranth</u>	<u>Implementation Progress</u>	Final
Flowering Plants	Golden sedge (<i>Carex lutea</i>)	Wherever found	Endangered	Raleigh Ecological Services Field Office	<u>Final Recovery Plan for the Golden Sedge (Carex Lutea)</u>	<u>Implementation Progress</u>	Final
Mammals	West Indian Manatee (<i>Trichechus manatus</i>)	Wherever found	Threatened	North Florida Ecological Services Field Office	<u>Recovery Plan Puerto Rican Population of the West Indian (Antillean) Manatee</u>	<u>Implementation Progress</u>	Final
Mammals	West Indian Manatee (<i>Trichechus manatus</i>)	Wherever found	Threatened	North Florida Ecological Services Field Office	<u>Florida Manatee Recovery Plan, Third Revision</u>	<u>Implementation Progress</u>	Final Revision 3

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Mammals	Northern Long-Eared Bat (<i>Myotis septentrionalis</i>)	Wherever found	Threatened	Minnesota-Wisconsin Ecological Services Field Office			
Reptiles	American alligator (<i>Alligator mississippiensis</i>)	Wherever found	Similarity of Appearance (Threatened)	Office of the Regional Director			
Reptiles	Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Wherever found	Endangered	North Florida Ecological Services Field Office	Recovery Plan for U.S. Pacific Populations of the Hawksbill Turtle	Implementation Progress	Final Revision 1
Reptiles	Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Wherever found	Endangered	North Florida Ecological Services Field Office	Recovery Plan for the Hawksbill Turtle in the U.S. Caribbean, Atlantic and Gulf of Mexico	Implementation Progress	Final Revision 1
Reptiles	Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Wherever found	Endangered	North Florida Ecological Services Field Office	Recovery Plan for U.S. Pacific Populations of the Leatherback Turtle	Implementation Progress	Final Revision 1
Reptiles	Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Wherever found	Endangered	North Florida Ecological Services Field Office	Recovery Plan for Leatherback Turtles in the U.S. Caribbean, Atlantic, and Gulf of Mexico	Implementation Progress	Final Revision 1

Group	Name	Population	Status	Lead Office	Recovery Plan	Recovery Plan Action Status	Recovery Plan Stage
Reptiles	Green sea turtle (<i>Chelonia mydas</i>)	North Atlantic DPS	Threatened	North Florida Ecological Services Field Office	<u>Recovery Plan for U.S. Population of Atlantic Green Turtle</u>	<u>Implementation Progress</u>	Final Revision 1
Reptiles	Loggerhead sea turtle (<i>Caretta caretta</i>)	Northwest Atlantic Ocean DPS	Threatened	North Florida Ecological Services Field Office	<u>Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (Caretta caretta); Second Revision</u>	<u>Implementation Progress</u>	Final Revision 2
Snails	Magnificent ramshorn (<i>Planorbella magnifica</i>)	Wherever found	Candidate	Raleigh Ecological Services Field Office			

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ATTACHMENT 3

NORTH CAROLINA NATURAL HERITAGE PROGRAM SPECIES LIST

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Natural Heritage Program

NATURAL AND CULTURAL RESOURCE

HOME

Species/Community Search

Updated on October 8, 2018 with 2018-10 data set.

Search Parameters: Topo Map like 'Wilmington'
(Searched on Mon Jan 21 2019)

Do another search

Download Results (https://www.google.com/fusiontables/exporttable?query=SELECT TAXONOMIC_GROUP, SCIENTIFIC_NAME, COMMON_NAME, STATE_STATUS, FEDERAL_STATUS, STATE_RANK, GLOBAL_RANK, HABITAT_COMMENT, TOPO_MAP, TOPO_MAP_STATUS FROM 1wtZV_ycWxreFFO6i2qUq7IlfcPG6x0MI4XQaNB8 WHERE TOPO_MAP CONTAINS IGNORING CASE 'Wilmington' ORDER BY SCIENTIFIC_NAME&o=csv) →

Show entries per page

Filter search results:

Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Freshwater Fish	Acipenser brevirostrum	Shortnose Sturgeon	E	E	S1	G3	Wilmington	Current
Freshwater Fish	Acipenser oxyrinchus oxyrinchus	Atlantic Sturgeon	E	E	S2	G3T3	Wilmington	Current
Reptile	Alligator mississippiensis	American Alligator	T	T(S/A)	S3	G5	Wilmington	Current
Amphibian	Ambystoma mabeei	Mabee's Salamander	T		S2?	G4	Wilmington	Historical

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Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Amphibian	<i>Anaxyrus quercicus</i>	Oak Toad	SR		S2	G5	Wilmington	Historical
Freshwater Bivalve	<i>Anodonta couperiana</i>	Barrel Floater	E		S1	G4	Wilmington	Historical
Vascular Plant	<i>Aristida condensata</i>	Big Three-awn Grass	T		S2	G4?	Wilmington	Historical
Vascular Plant	<i>Arnoglossum ovatum</i> var. <i>lanceolatum</i>	Savanna Indian-plantain	E		S2	G4G5TNR	Wilmington	Historical
Vascular Plant	<i>Asclepias pedicellata</i>	Savanna Milkweed	SC-V		S3	G4	Wilmington	Historical
Vascular Plant	<i>Baccharis glomeruliflora</i>	Silverling	SC-H		S1	G4	Wilmington	Historical
Vascular Plant	<i>Boltonia asteroides</i> var. <i>glastifolia</i>	White Doll's-daisy	SR-O		S2	G5TNR	Wilmington	Current
Natural Community	Brackish Marsh (Smooth Cordgrass Subtype)				S1	G3G4	Wilmington	Current
Vascular Plant	<i>Carex decomposita</i>	Cypress Knee Sedge	SC-V		S2	G3G4	Wilmington	Historical
Mammal	<i>Corynorhinus rafinesquii macrotis</i>	Eastern Big-eared Bat	SC		S3	G3G4T3	Wilmington	Current
Vascular Plant	<i>Crocotanthemum carolinianum</i>	Carolina Sunrose	E		S1	G4	Wilmington	Historical
Reptile	<i>Crotalus adamanteus</i>	Eastern Diamondback Rattlesnake	E		S1	G4	Wilmington	Historical
Vascular Plant	<i>Cyperus lecontei</i>	Leconte's Flatsedge	T		S2	G4?	Wilmington	Historical
Reptile	<i>Deirochelys reticularia reticularia</i> (syn. <i>Deirochelys reticularia</i>)	Eastern Chicken Turtle	SC		S3	G5T5	Wilmington	Historical

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Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Vascular Plant	<i>Dichantheium cryptanthum</i> (syn. <i>Dichantheium</i> sp. 9)	Hidden-flowered Witchgrass	SR-T		S2	G3G4Q	Wilmington	Historical
Vascular Plant	<i>Dionaea muscipula</i>	Venus Flytrap	SC-V		S2	G2	Wilmington	Current
Vascular Plant	<i>Eleocharis vivipara</i>	Viviparous Spikerush	E		S1	G5	Wilmington	Current
Freshwater Fish	<i>Enneacanthus chaetodon</i>	Blackbanded Sunfish	SR		S3	G3G4	Wilmington	Historical
Freshwater Fish	<i>Enneacanthus obesus</i>	Banded Sunfish	SR		S3	G5	Wilmington	Historical
Butterfly	<i>Erynnis martialis</i>	Mottled Duskywing	SR		S2	G3	Wilmington	Historical
Butterfly	<i>Euphyes dukesi</i>	Dukes' Skipper	SR		S1S2	G3	Wilmington	Current
Reptile	<i>Farancia erytrogramma</i>	Rainbow Snake	SR		S3	G4	Wilmington	Current
Freshwater or Terrestrial Gastropod	<i>Helisoma eucosmium</i>	Greenfield Rams-horn	E		S1	G1Q	Wilmington	Historical
Freshwater Fish	<i>Heterandria formosa</i>	Least Killifish	SC		S2	G5	Wilmington	Current
Reptile	<i>Heterodon simus</i>	Southern Hognose Snake	T		S2	G2	Wilmington	Current
Bird	<i>Himantopus mexicanus</i>	Black-necked Stilt	SR		S1B	G5	Wilmington	Current
Vascular Plant	<i>Iris prismatica</i>	Slender Blue Iris	SR-T		S1S2	G4G5	Wilmington	Current
Vascular Plant	<i>Lachnocaulon minus</i>	Brown Bogbutton	T		S2	G3G4	Wilmington	Current
Mammal	<i>Lasiurus intermedius floridanus</i>	Florida Yellow Bat	SC		S1	G5T4	Wilmington	Current

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Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Vascular Plant	<i>Lilaeopsis carolinensis</i>	Carolina Grasswort	SR-O		S2	G3G5	Wilmington	Current
Reptile	<i>Liodytes rigida</i>	Glossy Crayfish Snake	SR		S2S3	G5	Wilmington	Historical
Vascular Plant	<i>Litsea aestivalis</i>	Pondspice	SC-V		S2S3	G3?	Wilmington	Current
Vascular Plant	<i>Ludwigia lanceolata</i>	Lanceleaf Seedbox	E		S1	G3	Wilmington	Current
Vascular Plant	<i>Ludwigia suffruticosa</i>	Shrubby Seedbox	T		S2	G5	Wilmington	Current
Crustacean	<i>Lynceus gracilicornis</i>	Graceful Clam Shrimp	SC		S2	G5	Wilmington	Historical
Reptile	<i>Malaclemys terrapin</i>	Diamondback Terrapin	SC		S3	G4	Wilmington	Current
Reptile	<i>Masticophis flagellum</i>	Coachwhip	SR		S3	G5	Wilmington	Historical
Reptile	<i>Micrurus fulvius fulvius</i>	Eastern Coralsnake	E		S1	G5	Wilmington	Historical
Mammal	<i>Myotis septentrionalis</i>	Northern Long-eared Bat	T	T-4(d)	S2	G1G2	Wilmington	Current
Vascular Plant	<i>Oenothera riparia</i>	Riverbank Evening-primrose	SR-L		S2S3	G2G3	Wilmington	Current
Reptile	<i>Ophisaurus mimicus</i>	Mimic Glass Lizard	SC		S1	G3	Wilmington	Historical
Bird	<i>Passerina ciris</i>	Painted Bunting	SC		S2B	G5	Wilmington	Current
Dragonfly or Damselfly	<i>Phanogomphus australis</i> (syn. <i>Gomphus australis</i>)	Clearlake Clubtail	SR		S2	G4	Wilmington	Historical
Bird	<i>Picoides borealis</i>	Red-cockaded Woodpecker	E	E	S2	G3	Wilmington	Current

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Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Vascular Plant	<i>Pinguicula lutea</i>	Yellow Butterwort	SR-P		S1	G4G5	Wilmington	Historical
Reptile	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake	T		S2	G4T4	Wilmington	Historical
Freshwater or Terrestrial Gastropod	<i>Planorbella magnifica</i>	Magnificent Rams-horn	E	C	S1	G1	Wilmington	Historical
Vascular Plant	<i>Platanthera nivea</i>	Snowy Orchid	T		SH	G5	Wilmington	Historical
Butterfly	<i>Problema bulenta</i>	Rare Skipper	SR		S1	G2G3	Wilmington	Current
Amphibian	<i>Pseudacris ornata</i>	Ornate Chorus Frog	E		S2	G4	Wilmington	Historical
Vascular Plant	<i>Ptilimnium ahlesii</i>	Carolina Bishopweed	SR-T		S1	G1	Wilmington	Current
Vascular Plant	<i>Ptilimnium costatum</i>	Ribbed Bishop-weed	T		S1	GNR	Wilmington	Historical
Vascular Plant	<i>Quercus elliotii</i>	Running Oak	SR-P		S2	G3G5	Wilmington	Historical
Amphibian	<i>Rana capito</i> (syn. <i>Rana capito capito</i>)	Carolina Gopher Frog	E		S2	G3	Wilmington	Historical
Vascular Plant	<i>Rhynchospora harperi</i>	Harper's Beaksedge	SC-V		S2	G4?	Wilmington	Current
Vascular Plant	<i>Rhynchospora pleiantha</i>	Coastal Beaksedge	T		S2	G2G3	Wilmington	Historical
Vascular Plant	<i>Rhynchospora tracyi</i>	Tracy's Beaksedge	T		S2	G4	Wilmington	Current
Vascular Plant	<i>Sagittaria isoetiformis</i>	Quillwort Arrowhead	T		S2	G4?	Wilmington	Historical
Vascular Plant	<i>Sagittaria weatherbiana</i>	Grassleaf Arrowhead	E		S2	G5T3T4	Wilmington	Current
Vascular Plant	<i>Sarracenia minor</i> var. <i>minor</i>	Hooded Pitcherplant	E		S2	G4T4	Wilmington	Current

Donate to Hurricane Recovery

Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Moth	<i>Schinia septentrionalis</i>	Northern Flower Moth	SR		SH	G3G4	Wilmington	Historical
Vascular Plant	<i>Scleria reticularis</i>	Netted Nutrush	T		S2	G4	Wilmington	Current
Reptile	<i>Seminatrix pygaea paludis</i>	Carolina Swamp Snake	SC		S2	G5T4	Wilmington	Historical
Reptile	<i>Sistrurus miliarius miliarius</i>	Carolina Pigmy Rattlesnake	SC		S3	G5T4T5	Wilmington	Historical
Natural Community	Small Depression Drawdown Meadow (Typic Subtype)				S2S3	G2?	Wilmington	Current
Natural Community	Small Depression Pond (Open Lily Pond Subtype)				S3	G3?	Wilmington	Current
Natural Community	Small Depression Pond (Typic Marsh Subtype)				S3	G3?	Wilmington	Current
Natural Community	Small Depression Shrub Border				S3	G3?	Wilmington	Current
Dragonfly or Damselfly	<i>Somatochlora georgiana</i>	Coppery Emerald	SR		S2?	G3G4	Wilmington	Historical
Vascular Plant	<i>Spiranthes laciniata</i>	Lace-lip Ladies'-tresses	SC-V		S2	G4G5	Wilmington	Current
Bird	<i>Sternula antillarum</i>	Least Tern	SC		S3B	G4	Wilmington	Current
Natural Community	Tidal Freshwater Marsh (Cattail Subtype)				S3	G4G5	Wilmington	Current

Taxonomic Group	Scientific Name	Common Name	NC Status	Federal Status	State Rank	Global Rank	Topo Map	Topo Map Status
Natural Community	Tidal Freshwater Marsh (Giant Cordgrass Subtype)				S4	G4	Wilmington	Current
Natural Community	Tidal Freshwater Marsh (Mixed Freshwater Subtype)				S1	G2?	Wilmington	Current
Natural Community	Tidal Freshwater Marsh (Sawgrass Subtype)				S4	G4?	Wilmington	Current
Natural Community	Tidal Freshwater Marsh (Threesquare Subtype)				S2S3	G2G3	Wilmington	Current
Natural Community	Tidal Swamp (Cypress--Gum Subtype)				S4	G3G4	Wilmington	Current
Mammal	Trichechus manatus	West Indian Manatee	T	T	S1N	G2	Wilmington	Current
Vascular Plant	Utricularia cornuta	Horned Bladderwort	T		S1S2	G5	Wilmington	Historical
Vascular Plant	Utricularia olivacea	Dwarf Bladderwort	T		S2	G4	Wilmington	Historical
Natural Community	Vernal Pool (Typic Subtype)				S2S3	G2?	Wilmington	Current
Animal Assemblage	Waterbird Colony				S3	GNR	Wilmington	Current
Natural Community	Xeric Sandhill Scrub (Typic Subtype)				S3S4	G3?	Wilmington	Current

Showing 1 to 87 of 87 entries

First Previous [1](#) Next Last

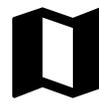
Donate to Hurricane Recovery



[Help](#)



[Definitions](#)



[County
Reference
Map](#)



[Topo
Reference
Map](#)

A species/community search provides lists of rare plants and animals, natural communities, and important animal assemblages (e.g., heronries and colonial waterbird nesting sites) known to the North Carolina Natural Heritage Program. By default, records are summarized by county, but you also have the option to summarize the records by USGS topographic maps or simple statewide summaries. For more information or for an explanation of the results of the search, see the "Help" and "Definitions" links above.

- Partial search terms are acceptable. If you are unsure of the correct spelling, you could enter the beginning letters of either the genus or species in the Scientific Name field.
- To see distribution maps, click on the scientific or common name of an element in the table of results from a county or topo database search. Note that there are no maps for the statewide summary.
- The results can be further refined by entering a text string in the "Filter search results" field.
- Clicking the "Download Results" button will give you the option of saving the results table to a comma-separated-values file. This type of file can be opened with most spreadsheet programs, including Microsoft Excel.
- If you have any questions or technical issues, contact a Conservation Information Manager.

Use of North Carolina Natural Heritage Program data should not be substituted for actual field surveys, particularly if the project area contains suitable habitat for rare species. If a database search lists no records for a project area, it does not necessarily mean that they are not present. The area may not have been surveyed by biologists, or the data may not have been reported to the Natural Heritage Program.

Information obtained from the heritage data search should be cited as follows: North Carolina Natural Heritage Program Online Data Search. [search date]. Department of Natural and Cultural Resources, Division of Land and Water Stewardship, Raleigh, NC. Available at: www.ncnhp.org (<http://www.ncnhp.org>).

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u=https%3A%2F%2Fwww.ncnhp.org%2Fdata%2Fspecies-community-search)



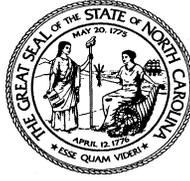
[Twitter](http://twitter.com/intent/tweet?url=https%3A%2F%2Fwww.ncnhp.org%2Fdata%2Fspecies-community-search) (http://twitter.com/intent/tweet?url=https%3A%2F%2Fwww.ncnhp.org%2Fdata%2Fspecies-

community-search)

DRAFT

ATTACHMENT 4
CORRESPONDENCE

DRAFT



North Carolina Department of Natural and Cultural Resources
State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

March 11, 2019

Brian Buchanan
ATC Group Services, LLC
2725 East Millbrook Road, Suite 121
Raleigh, NC 27604

Re: Risk Assessment, Winter Park Cleaners, 1437 South College Road, Wilmington, New Hanover County,
ER 19-0798

Dear Mr. Buchanan:

Thank you for your email of February 11, 2019, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

A handwritten signature in blue ink that reads "Renee Gledhill-Earley".

for Ramona M. Bartos

DRAFT

APPENDIX D

NOTICE OF DRY-CLEANING SOLVENT REMEDIATION FOR SOURCE PROPERTY

NOTICE OF DRY-CLEANING SOLVENT REMEDIATION

Property Owner: Cole TR Wilmington NC, LLC
Recorded in Book _____, Page _____
Associated plat recorded in Plat Book _____, Page _____

This documentary component of a Notice of Dry-Cleaning Solvent Remediation (hereinafter "Notice") is hereby recorded on this _____ day of _____, 20____ by Cole TR Wilmington NC, LLC (hereinafter "Property Owner"). The survey plat component of the Notice is being recorded concurrently with this documentary component. The real property (hereinafter "Property") which is the subject of this Notice is located at 1437 South College Road, Wilmington, New Hanover County, North Carolina, Parcel Identification Number (PIN) R06107-002-006-000.

The Property is contaminated with dry-cleaning solvent, as defined in North Carolina General Statutes (hereinafter "N.C.G.S."), Section (hereinafter "§") 143-215.104B(b)(9) and other contaminants. This Notice has been approved by the North Carolina Department of Environmental Quality, or its successor in function (hereinafter "DEQ") under the authority of the Dry-Cleaning Solvent Cleanup Act of 1997, as amended, N.C.G.S. § 143-215.104A *et seq.* (hereinafter "DSCA"), and is required to be filed in the Register of Deeds' Office in the county or counties in which the land is located, pursuant to NCGS § 143-215.104M.

Soil and groundwater at the Property are contaminated with dry-cleaning solvents associated with dry-cleaning operations at the former Winter Park Cleaners (DSCA Site DC650013) located at 1437 South College Road, Wilmington, New Hanover County, North Carolina. Dry-cleaning operations were conducted on the Property from approximately 1951 to at least 1964.

Pursuant to N.C.G.S. § 143-215.104M, this Notice is being filed in order to reduce or eliminate the danger to public health or the environment posed by the Property. Attached hereto as **Exhibit A** is a reduction, to 8 1/2" x 11", of the survey plat component of the Notice required by N.C.G.S. § 143-215.104M. The survey plat has been prepared and certified by a professional

land surveyor and meets the requirements of G.S. 47-30, and contains the following information required by N.C.G.S. § 143-215.104M:

(1) A description of the location and dimensions of the areas of potential environmental concern with respect to permanently surveyed benchmarks; and

(2) The type, location and quantity of regulated dry-cleaning solvent contamination and other contaminants known to exist on the Property.

Attached hereto as **Exhibit B**, is a legal description of the Property that would be sufficient as a description in an instrument of conveyance.

Pursuant to NCGS § 143-215.104M, a certified copy of this Notice must be filed within 15 days of receipt of DEQ's approval of the Notice or the effective date of the dry-cleaning solvent remediation agreement, whichever is later. Pursuant to NCGS § 143-215.104M, the copy of the Notice certified by DEQ must be recorded in the grantor index under the names of the owners of the land.

LAND-USE RESTRICTIONS

NCGS § 143-215.104M requires that the Notice identify any restrictions on the current and future use of the Property that are necessary or useful to maintain the level of protection appropriate for the designated current or future use of the Property and that are designated in the dry-cleaning remediation agreement. The restrictions shall remain in force in perpetuity unless canceled by the Secretary of DEQ, or his/her designee, after the hazards have been eliminated, pursuant to NCGS §143-215.104M. Those restrictions are hereby imposed on the Property, and are as follows:

1. Without prior written approval from DEQ, the Property shall not be used for mining or extraction of coal, oil, gas or any mineral or non-mineral substances.
2. No activities that encounter, expose, remove or use groundwater (for example, installation of water supply wells, fountains, ponds, lakes or swimming pools that use groundwater, or construction or excavation activities that encounter or expose groundwater) may occur on the Property without prior approval of DEQ.
3. Soil in "Area A" may not be removed or disturbed unless approved in writing in advance by DEQ or its successor in function, except for routine landscape maintenance and emergency utility repair. In the event of emergency utility repair, DEQ shall be given written notice of any such emergency repair no later than the next business day, and further related assessment and remedial measures may be required.
4. No activities that cause or create an increase in infiltration (for example, removal or demolition of materials such as asphalt, concrete, buildings, or other structures that by their use and nature minimize infiltration of rain or water runoff into potentially contaminated soil) may occur in "Area A" of the Property, as shown on Exhibit A, without prior approval of DEQ.

5. In January of each year, on or before January 31st, the owner of any portion of the Property shall submit a notarized Annual Certification of Land-Use Restrictions to DEQ certifying that this Notice remains recorded at the Register of Deeds' office, and that the land-use restrictions are being complied with.
6. No person conducting environmental assessment or remediation at the Property or involved in determining compliance with applicable land-use restrictions, at the direction of, or pursuant to a permit or order issued by DEQ may be denied access to the Property for the purpose of conducting such activities.
7. The owner of any portion of the Property shall cause the instrument of any sale, lease, grant, or other transfer of any interest in the property to include a provision expressly requiring the lessee, grantee, or transferee to comply with this Notice. The failure to include such a provision shall not affect the validity or applicability of any land-use restriction in this Notice.

RIGHT OF ENTRY

The property owner grants and conveys to DEQ, its agents, contractors, and employees, and any person performing pollution remediation activities under the direction of DEQ, access at reasonable times and under reasonable security requirements to the Property to determine and monitor compliance with the land-use restrictions set forth in this Notice. Such investigations and actions are necessary by DEQ to ensure that use, occupancy, and activities of and at the Property are consistent with the land-use restrictions and to ensure that the structural integrity and continued effectiveness of any engineering controls (if appropriate) described in the Notice are maintained. Whenever possible, at least 48 hours advance notice will be given to the Property Owner prior to entry. Advance notice may not always be possible due to conditions such as response time to complaints and emergency situations.

REPRESENTATIONS AND WARRANTIES

The Property Owner hereby represents and warrants to the other signatories hereto:

- i) that the Property Owner is the sole owner of the Property; **or** that the Property Owner has provided to DEQ the names of all other persons that own an interest in or hold an encumbrance on the Property and have notified such persons of the Property Owner's intention to enter into this Notice;
- ii) that the Property Owner has the power and authority to enter into this Notice, to grant the rights and interests herein provided and to carry out all obligations hereunder; and
- iii) that this Notice will not materially violate or contravene or constitute a material default under any other agreement, document or instrument to which the Property Owner is a party or by which the Property Owner may be bound or affected.

ENFORCEMENT

The above land-use restrictions shall be enforceable without regard to lack of privity of estate or contract, lack of benefit to particular land, or lack of any property interest in particular land. The land-use restrictions shall be enforced by any owner of the Property. The land-use restrictions may also be enforced by DEQ through the remedies provided in NCGS § 143-215.104P or by means of a civil action; by any unit of local government having jurisdiction over any part of the Property; and by any person eligible for liability protection under the DSCA who will lose liability protection if the restrictions are violated. Any attempt to cancel any or all of this Declaration without the approval of the Secretary of DEQ (or its successor in function), or his/her delegate, shall be subject to enforcement by DEQ to the full extent of the law. Failure by any party required-or authorized to enforce any of the above restrictions shall in no event be deemed a waiver of the right to do so thereafter as to the same violation or as to one occurring prior or subsequent thereto.

If a land-use restriction set out in this Notice required under NCGS § 143-215.104.M is violated, the owner of the Property at the time the land-use restriction is violated, the owner's successors and assigns, and the owner's agents who direct or contract for alteration of the contamination site in violation of a land-use restriction shall be liable for remediation of all contaminants to unrestricted use standards.

FUTURE SALES, LEASES, CONVEYANCES AND TRANSFERS

When any portion of the Property subject to this Notice is sold, leased, conveyed or transferred, the deed or other instrument of transfer shall contain in the description section, in no smaller type than that used in the body of the deed or instrument, (1) a statement that the property has been contaminated with dry-cleaning solvent and, if appropriate, cleaned up under the Act and (2) a reference by book and page to the recordation of this Notice.

The Property Owner shall notify DEQ within fourteen (14) calendar days of the effective date of any conveyance, grant, gift, or other transfer, whole or in part, of the Property Owner's interest in the Property. This notification shall include the name, business address and phone number of the transferee and the expected date of transfer.

The Property Owner shall notify DEQ within thirty (30) days following the petitioning or filing of any document by any person initiating a rezoning of the Property that would change the base zone of the Property.

This provision shall not apply to leases that do not provide for the right to take actions that would violate the prohibitions and restrictions of this Notice.

PROPERTY OWNER SIGNATURE

IN WITNESS WHEREOF, Property Owner has caused this instrument to be duly executed this ___ day of _____, 20__.

Cole TR Wilmington NC, LLC

By:

Name of contact

STATE OF _____
COUNTY OF _____

I, _____, a Notary Public of the county and state aforesaid, certify that _____ personally came before me this day and acknowledged that he/she is a Member of Cole TR Wilmington NC, LLC, a North Carolina limited liability corporation, and its Manager, and that by authority duly given and as the act of the company, the foregoing Notice of Dry-Cleaning Solvent Remediation was signed in its name by him.

WITNESS my hand and official stamp or seal, this ___ day of _____, 20__.

Name typed or printed
Notary Public

My Commission expires: _____
[Stamp/Seal]

APPROVAL AND CERTIFICATION

The foregoing Notice of Dry-Cleaning Solvent Remediation is hereby approved and certified.

North Carolina Department of Environmental Quality

By: _____
Jim Bateson, LG
Chief, Superfund Section
Division of Waste Management

Date

ATTACHMENT

LIMITED POWER OF ATTORNEY

I _____ “Property Owner”, do hereby grant a limited power of attorney to DEQ and to DEQ’s independent contractors, as follows:

DEQ and DEQ’s independent contractors shall have the limited power of attorney to record this Notice, including its documentary and survey plat components, in accordance with N.C.G.S. § 143-215.104M on my “Property Owner” behalf. This limited power of attorney shall terminate upon completion of the recordation of the Notice.

Signature of Property Owner _____

Dated this ____ day of _____, 20__.

STATE OF _____
COUNTY OF _____

I, _____, a Notary Public, do hereby certify that _____ personally appeared before me this day and signed this “Limited Power of Attorney”.

WITNESS my hand and official stamp or seal, this ____ day of _____, 20__.

Name typed or printed
Notary Public

My Commission expires: _____
[Stamp/Seal]

EXHIBIT A
REDUCTION OF SURVEY PLAT

DRAFT

SURVEY PLAT - EXHIBIT A TO THE NOTICE OF DRY-CLEANING SOLVENT REMEDIATION

THE FORMER WINTER PARK CLEANERS - DSCA SITE DC650013

SOURCE PROPERTY OWNER: COLE TR WILMINGTON NC, LLC **PID: R06107-002-006-000**
SOURCE PROPERTY ADDRESS: 1437 SOUTH COLLEGE ROAD, WILMINGTON TOWNSHIP, NEW HANOVER COUNTY, NC

I, E. MATTHEW CASH, LICENSED AS A PROFESSIONAL LAND SURVEYOR IN THE STATE OF NORTH CAROLINA, DO HEREBY CERTIFY THAT THIS PLAT WAS DRAWN BY ME FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION AND COMPLETED ON JANUARY 25, 2019 USING DEED BOOK 5751, PAGE 1885 OF THE NEW HANOVER COUNTY REGISTRY; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM THE REFERENCES SHOWN HEREON; THAT THE RATIO OF PRECISION BEFORE ADJUSTMENT AS CALCULATED IS 1:158,646; THAT THIS MAP WAS PREPARED IN ACCORDANCE WITH NORTH CAROLINA GENERAL STATUTES 47-30, AS AMENDED.

WITNESS MY ORIGINAL SIGNATURE AND SEAL THIS ____ DAY OF _____, 2019

E. MATTHEW CASH, PLS L-5045



I HEREBY CERTIFY THAT THIS PLAT IS OF THE FOLLOWING TYPE: G.S. 47-30 (f)(11)(c)(1). THIS SURVEY IS OF AN EXISTING PARCEL OR PARCELS OF LAND OR ONE OR MORE EXISTING EASEMENTS AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

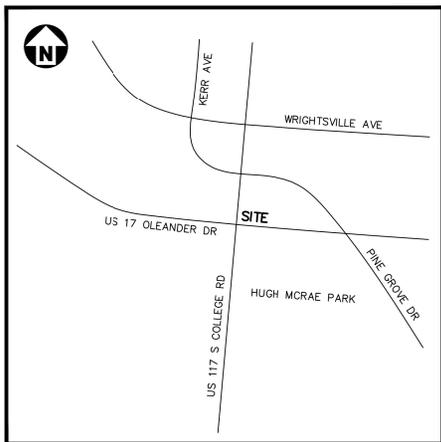
**PRELIMINARY PLAT
NOT FOR RECORDATION
CONVEYANCES OR SALES**

CERTIFICATE OF REVIEW OFFICER

STATE OF NORTH CAROLINA
COUNTY OF NEW HANOVER

I, _____ REVIEW OFFICER OF NEW HANOVER COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

DATE _____ REVIEW OFFICER



VICINITY MAP
N.T.S.

SURVEY NOTES

- THIS IS AN EXHIBIT TO A NOTICE OF DRY-CLEANING SOLVENT REMEDIATION. THIS IS **NOT** A SUBDIVISION OF LAND.
- THIS SURVEY WAS PERFORMED ON THE GROUND WITH A COMPLETION DATE OF JANUARY 25, 2019.
- AREAS SHOWN ON THIS PLAT COMPUTED BY THE COORDINATE METHOD.
- PROPERTY OWNER INFORMATION OBTAINED FROM NEW HANOVER COUNTY ONLINE TAX RECORDS.
- SUBJECT PROPERTY IS SUBJECT TO ALL RIGHTS OF WAY, EASEMENTS, COVENANTS, RESTRICTIONS, AND APPURTENANCES OF RECORD.
- SUBJECT PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA PER FEMA FIRM NO. 37203J3600K; EFFECTIVE DATE AUGUST 28, 2018.
- DISTANCES SHOWN ON THE PLAT ARE HORIZONTAL GROUND DISTANCES UNLESS NOTED OTHERWISE.
- ALL BEARINGS, DISTANCES, AND COORDINATES SHOWN ON THE PLAT ARE BASED ON NORTH CAROLINA STATE PLANE GRID NAD 83 (2011) ADJUSTMENT UNLESS NOTED OTHERWISE.
- VERTICAL DATUM IS NAVD83 (GEOID 12B).
- SOIL BORING LOCATIONS WERE PROVIDED BY ATC GROUP SERVICES IN A MAP TITLED "SOIL QUALITY MAP" DATED NOVEMBER 2018. SOIL BORINGS WERE NOT LOCATED DURING THE SURVEY AND ARE SHOWN FOR REFERENCE PURPOSES ONLY.
- MONITORING WELL 1 WAS NOT FOUND DURING THE SURVEY. THE LOCATION SHOWN ON THE PLAT WAS PROVIDED BY ATC GROUP SERVICES IN A MAP TITLED "PROPOSED LAND USE CONTROL AREAS" DATED FEBRUARY 2018.

GENERAL NOTES

- THE AREAS AND TYPE OF CONTAMINATION DEPICTED UPON THE PLAT ARE APPROXIMATIONS DERIVED FROM THE BEST AVAILABLE INFORMATION AT THE TIME OF FILING.

DEQ ACKNOWLEDGEMENT

APPROVED FOR THE PURPOSES OF N.C.G.S. 143-215.104M.

JM BATESON, LG
CHIEF, SUPERFUND SECTION
DIVISION OF WASTE MANAGEMENT

NOTARY CERTIFICATE:

____ STATE
____ COUNTY

I, _____ A NOTARY PUBLIC OF SAID COUNTY AND STATE, DO HEREBY CERTIFY THAT

DID PERSONALLY APPEAR AND SIGN BEFORE ME THIS THE ____ DAY OF

____, 20____

NOTARY PUBLIC (SIGNATURE)

MY COMMISSION EXPIRES: _____

DEED STATEMENT

N.C.G.S. 143-215.104M(d) REQUIRES THAT WHEN PROPERTY FOR WHICH A NOTICE OF DRY-CLEANING SOLVENT REMEDIATION HAS BEEN FILED IS SOLD, LEASED, CONVEYED OR TRANSFERRED, THE DEED OR OTHER INSTRUMENT OF TRANSFER SHALL CONTAIN IN THE DESCRIPTION SECTION, IN NO SMALLER TYPE THAN THAT USED IN THE BODY OF THE DEED OR INSTRUMENT, A STATEMENT THAT THE PROPERTY HAS BEEN CONTAMINATED WITH DRY-CLEANING SOLVENT AND, IF APPROPRIATE, CLEANED UP UNDER THIS PART. USE THE FOLLOWING STATEMENT TO SATISFY N.C.G.S. 143-215.104M(d):

THIS PROPERTY HAS BEEN CONTAMINATED WITH DRY-CLEANING SOLVENT. A NOTICE OF DRY-CLEANING SOLVENT REMEDIATION IS RECORDED IN THE NEW HANOVER COUNTY REGISTER OF DEEDS OFFICE AT

DEED BOOK _____ PAGE _____

QUESTIONS CONCERNING THIS MATTER MAY BE DIRECTED TO THE NORTH CAROLINA DIVISION OF WASTE MANAGEMENT, SUPERFUND SECTION, DRY-CLEANING SOLVENT CLEANUP ACT (DSCA) PROGRAM, OR ITS SUCCESSOR IN FUNCTION, 1646 MAIL SERVICE CENTER, RALEGH, NC 27699-1646.

COORDINATE SYSTEM: US STATE PLANE 1983 ZONE: NORTH CAROLINA 3200 HORIZONTAL DATUM: NAD 83 (2011) VERTICAL DATUM: NAVD 88 (GEOID 12B) UNIT OF MEASURE: US SURVEY FEET			
WELL ID	GRID NORTHING	GRID EASTING	TOP OF CASING ELEVATION
MW-1	SEE SURVEY NOTE #12		
MW-2	169588.13	2335670.60	41.31
MW-3	169564.71	2335713.67	41.21
MW-4	169567.85	2335793.97	41.44
MW-5	169493.06	2335893.89	39.34

OWNER ACKNOWLEDGEMENT

I ACKNOWLEDGE THAT I HAVE FULL AUTHORITY TO LEGALLY EXECUTE A DEED FOR THIS PROPERTY.

SIGNATURE _____

NOTARY CERTIFICATE:

____ STATE
____ COUNTY

I, _____ A NOTARY PUBLIC OF SAID COUNTY AND STATE, DO HEREBY CERTIFY THAT

DID PERSONALLY APPEAR AND SIGN BEFORE ME THIS THE ____ DAY OF

____, 20____

NOTARY PUBLIC (SIGNATURE)

MY COMMISSION EXPIRES: _____

CONTAMINANT STATEMENT

GROUNDWATER IN WELLS MW-1 AND MW-3 EXCEEDED THE APPLICABLE 2L WATER QUALITY STANDARDS (15A NCAC 2L.0200; FOR ONE OR MORE OF THE FOLLOWING CONTAMINANTS: BENZENE, ETHYLBENZENE, NAPHTHALENE, TOTAL XYLENES, ISOPROPYLBENZENE, N-PROPYLBENZENE, 1,2,4-TRIMETHYLBENZENE, 1,3,5-TRIMETHYLBENZENE, 1-METHYLNAPHTHALENE, 2-METHYLNAPHTHALENE, C5-C8 ALIPHATICS, C9-C12 ALIPHATICS, C9-C10 AROMATICS, C9-C18 ALIPHATICS AND C9-C11 AROMATICS.

SOL IN BORING SB-2 EXCEEDED THE ASSOCIATED RESIDENTIAL RISK BASED SCREENING LEVEL (15A NCAC 2S) FOR ONE OR MORE OF THE FOLLOWING CONTAMINANTS: NAPHTHALENE, 2-METHYLNAPHTHALENE.

THE DOCUMENTARY COMPONENT OF THE NOTICE OF DRY-CLEANING SOLVENT REMEDIATION, WHICH IDENTIFIES CONTROLS OR LIMITATIONS ON THE USE OF THIS PROPERTY, IS RECORDED AT:

DEED BOOK _____ PAGE _____

McADAMS
The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713
phone 919.361.5000
fax 919.361.2269
license number: C-0293
www.mcadamsco.com

CONTACT

E. MATTHEW CASH, PLS
cash@mcadamsco.com
PHONE: 919.361.5000

CLIENT

ATC GROUP SERVICES, LLC
2725 E. MILLBROOK RD SUITE 121
RALEIGH, NC 27604
PHONE: 919.871.0999

REVISIONS

NO.	DATE
1	
2	

PLAN INFORMATION

PROJECT NO. AGS-19000
FILENAME AGS19000-B1
CHECKED BY EMC
DRAWN BY EMC
SCALE 1"=30'
DATE 2019-01-25

SHEET

1-2



NC GRID NAD 83 (2011)

PRELIMINARY PLAT
NOT FOR RECORDATION
CONVEYANCES OR SALES

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 06°37'27" E	15.09'
L2	N 38°14'31" W	34.49'
L3	N 81°32'00" E	21.61'
L4	N 83°28'34" W	13.75'

McADAMS
The John R. McAdams Company, Inc.
2905 Meridian Parkway
Durham, NC 27713
phone 919.361.5000
fax 919.361.2269
license number: C-0293
www.mcadamsco.com

CONTACT

E. MATTHEW CASH, PLS
cash@mcadamsco.com
PHONE: 919.361.5000

**SURVEY PLAT-EXHIBIT A TO THE NOTICE OF
DRY-CLEANING SOLVENT REMEDIATION
OWNER: COLE TR WILMINGTON NC, LLC
THE FORMER WINTER PARK
CLEANERS - DSCA SITE DC650013
1437 SOUTH COLLEGE ROAD, WILMINGTON
TOWNSHIP, NEW HANOVER COUNTY, NC**



REVISIONS

NO.	DATE
1	
2	

PLAN INFORMATION

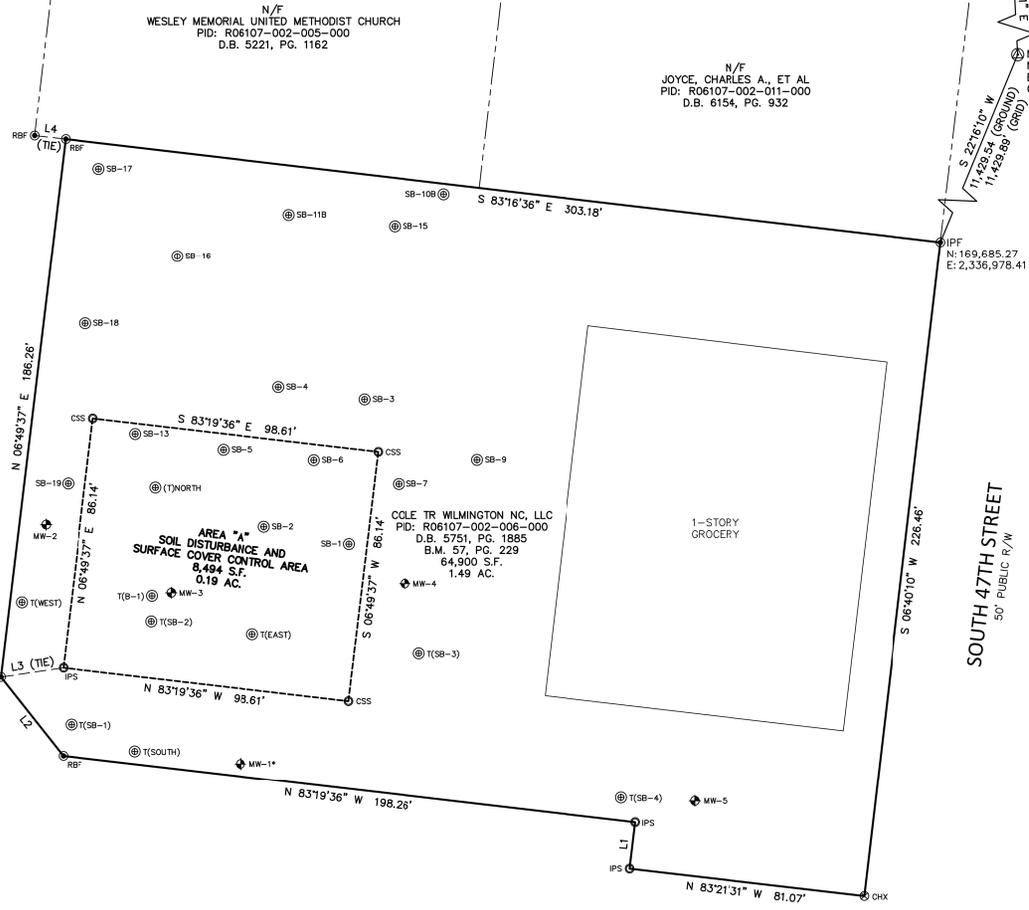
PROJECT NO.	AGS-19000
FILENAME	AGS19000-B1
CHECKED BY	EMC
DRAWN BY	EMC
SCALE	1"=30'
DATE	2019-01-25

SHEET

2-2

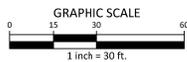
N/F
FC WILMINGTON, LLC
PID: R06107-001-001-000
D.B. 5757, PG. 2784

US 117 SOUTH COLLEGE STREET
VARIABLE WIDTH PUBLIC R/W



US 76 OLEANDER DRIVE
VARIABLE WIDTH PUBLIC R/W

SOUTH 47TH STREET
50' PUBLIC R/W



N/F
ZP NO 84, LLC
PID: R06107-011-001-000
D.B. 2531, PG. 929

N/F
Z-1 COMMERCIAL PROPERTIES, LLC
PID: R06107-011-021-000
D.B. 2698, PG. 386

N/F
NC DEPT. OF TRANSPORTATION
PID: R06107-011-022-000
D.B. 1607, PG. 806

- LEGEND**
- GIS PARCEL LINE
 - - - TIE LINE
 - CONTROL AREA
 - IPF IRON PIPE FOUND
 - RBF REBAR FOUND
 - CHX CHISELED X FOUND
 - IPS IRON PIPE SET
 - CSS COTTON SPINDLE SET
 - ⊕ GEODETIC MONUMENT
 - ⊕ MONITORING WELL (SEE SURVEY NOTE #12)
 - ⊕ SOIL BORING (SEE SURVEY NOTE #11)

X:\Projects\AGS\19000-19000\Geomatics\Survey\AGS19000-B1.dwg - 4/27/2019 9:57:11 AM, Cash, Matthew

EXHIBIT B
PROPERTY LEGAL DESCRIPTION

Legal Description

All that certain piece, parcel or tract of land situate, lying and being on the northern side of US 76/Oleander Drive at the intersection with the eastern side of US 117/NC 132/South College Road in the County of New Hanover, State of North Carolina, containing 1.49 acres, more or less, and having according to plat of survey entitled "Amended and Restated Dedication Plat For CAP Wilmington, LLC" prepared by MSP & Associates Land Surveying, Inc. dated March 19, 2012 as revised on December 13, 2012 and recorded in the Office of the Register of Deeds for New Hanover County, North Carolina in Plat Book 57 at Page 229 on December 17, 2012, the following metes and bounds, to-wit:

Beginning at a pk nail at a mitered intersection of the northern right of way of Oleander Drive (Variable R/W) and the eastern right of way of South College Road (Variable R/W); thence with said right of way of South College Road the following calls: N. 06-45-42 E. a distance of 186.30 feet to a pk nail found; thence leaving said right of way S. 83-18-50 E. a distance of 303.36 feet to a 3/4" open top found along the western right of way of 47th Street; thence with said right of way S. 06-37-49 W. a distance of 226.46 feet to a point along the northern right of way of Oleander Drive (Variable R/W); thence with said right of way the following calls: N. 83-23-18 W. a distance of 81.08 feet to a point; thence N. 06-35-38 E. a distance of 16.09 feet to a pk nail found; thence N. 83-21-24 W. a distance of 198.27 feet to a pk nail found; thence with mitered intersection N. 38-26-48 W. a distance of 34.49 feet to a pk nail found, the Point of Beginning.

DRAFT

APPENDIX E

EXAMPLE ANNUAL CERTIFICATION OF LAND-USE RESTRICTIONS

Annual Certification of Land-Use Restrictions

Site Name: Winter Park Cleaners
Site Address: 1437 South College Road, Wilmington, New Hanover County
DSCA ID No: DC650013

ANNUAL CERTIFICIATION of LAND-USE RESTRICTIONS

Pursuant to land-use restriction number 5 (the land-use restrictions are included as part of this form for reference) in the Notice of Dry-Cleaning Solvent Remediation (Notice) signed by Cole TR Wilmington NC, LLC and recorded in Deed Book____, Page _____ on <date> at the New Hanover County Register of Deeds Office, Cole TR Wilmington NC, LLC hereby certifies, as an owner of at least part of the property that is the subject of the Notice, that the Notice remains recorded at the New Hanover County Register of Deeds office and the land-use restrictions therein are being complied with.

Duly executed this ____ day of _____, 20__.

Cole TR Wilmington NC, LLC
By: _____
Name typed or printed:

STATE OF _____
COUNTY OF _____

I, _____, a Notary Public of the county and state aforesaid, certify that _____ personally came before me this day and the foregoing certification was signed by him/her.

WITNESS my hand and official stamp or seal, this ____ day of _____, 20__.

Name typed or printed:
Notary Public

My Commission expires: _____
[Stamp/Seal]

DRAFT

APPENDIX F

EXAMPLE DOCUMENTS ANNOUNCING THE PUBLIC COMMENT PERIOD



ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL SCOTT
Director

<Date>

<name>, <City Manager/County Health Director>
<address>
<city>, NC <zip>

Subj: Remediation of Dry-Cleaning Solvent Contamination
DSCA Site # DC650013
Winter Park Cleaners, 1437 South College Road, Wilmington

Dear <name>:

The Dry-Cleaning Solvent Cleanup Act of 1997 (DSCA), North Carolina General Statutes (N.C.G.S.) Sections 143-215.104A through 143-215.104U, provides for the assessment and remediation of properties that may have been or were contaminated by chlorinated solvents. To satisfy the requirements of N.C.G.S. 143-215.104L, this letter serves as the **Notice of Intent to Remediate a Dry-Cleaning Solvent Facility or Abandoned Site** (NOI) approved by the North Carolina Department of Environmental Quality (DEQ).

The NOI must provide, to the extent known, a legal description of the location of the DSCA Site, a map showing the location of the DSCA Site, a description of the contaminants involved and their concentrations in the media of the DSCA Site, a description of the intended future use of the DSCA Site, any proposed investigation and remediation, and a proposed Notice of Dry-Cleaning Solvent Remediation (NDCSR) prepared in accordance with N.C.G.S. Section 143-215.104M. The required components of the NOI are included in the attached Risk Management Plan, and are available during the public comment period on our website at:

<https://deq.nc.gov/about/divisions/waste-management/superfund-section/special-remediation-branch/dsca-public-notices-announcements>

The DSCA Program is providing a copy of the NOI to all local governments having jurisdiction over the DSCA Site. A 30-day public comment period is being held from <date>, until <date>. Written comments may be submitted to DEQ no later than <date>. Written requests for a public meeting may be submitted to DEQ no later than <date>. All such comments and requests should be sent to:

Sue Murphy, DSCA Remediation Unit
Division of Waste Management, NCDEQ
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



A Summary of the NOI is being published in the Star News, copies are being sent to owners of property within and contiguous with the area of contamination, and a copy of the Summary will be conspicuously posted at the Site during the public comment period.

If you have any questions, please feel free to contact me at (919)707-8354.

Sincerely,

Sue Murphy, DSCA Project Manager
Division of Waste Management, NCDEQ

Attachments: Risk Management Plan

cc: DSCA Site #DC650013 File

DRAFT



Public Notice

**SUMMARY OF NOTICE OF INTENT TO REMEDIATE A DRY-CLEANING
SOLVENT FACILITY OR ABANDONED SITE**

**N.C. Department of Environmental Quality
Division of Waste Management
Dry-Cleaning Solvent Cleanup Act (DSCA) Program**

Winter Park Cleaners
DSCA Site # DC650013

Pursuant to N.C.G.S. §143-215.104L, on behalf of Cole TR Wilmington NC, LLC, the North Carolina Department of Environment Quality's (NCDEQ's) private contractor has prepared a Notice of Intent to Remediate a Dry-Cleaning Solvent Facility or Abandoned Site (NOI). The purpose of this Summary of the NOI is to notify the community of the proposed remedy for the contamination site and invite comment on the proposed remedy.

Winter Park Cleaners formerly conducted dry-cleaning operations at 1437 South College Road, in Wilmington, North Carolina. The property is currently occupied by the Trader Joe's. Dry-cleaning solvent contamination in soil and/or ground water has been identified at the following parcel(s):

1437 South College Road, in Wilmington; Parcel No. R06107-002-006-000

An investigation of the extent of contamination has been completed. A risk assessment of the contaminated properties concluded that the contamination poses no unacceptable risks. A Risk Management Plan has been prepared which proposes using land-use controls to prevent current and future risks at the affected properties.

The elements of the complete NOI are included in the Risk Management Plan (RMP) which is available online at <http://portal.ncdenr.org/web/wm/DSCA/PublicNotices>.

The public comment period begins _____, 20__, and ends _____, 20__.

Comments must be in writing and submitted to NCDEQ no later than _____, 20__. Written requests for a public meeting may be submitted to NCDEQ no later than _____, 20__. Requests for additional information should be directed to Sue Murphey at (919)707-8354. All comments and requests should be sent to:

Sue Murphey, DSCA Remediation Unit
Division of Waste Management, NCDEQ
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



NORTH CAROLINA
Environmental Quality

ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL SCOTT
Director

<date>

<property owner>
<mailing address>
<city, state, zip>

Subj: Dry-Cleaning Solvent Contamination at Winter Park Cleaners, 1437 South College Road, Wilmington, New Hanover County, NC DSCA ID # DC650013

Dear <property owner>:

You are receiving this letter because your property at <adjacent property address> is adjacent to an area contaminated with dry-cleaning solvents. There are no actions required on your part and your property is not contaminated. This letter is only for notification purposes. The Dry-Cleaning Solvent Clean-up Act (DSCA) Program has completed an assessment of the dry-cleaning solvent contamination associated with the former Winter Park Cleaners at 1437 South College Road in Wilmington. The property is currently occupied by Traer Joe's. A remedial strategy to address the site contamination has been prepared, and in accordance with our program's statutes, the community has an opportunity to review and comment on the proposed strategy.

The attached Summary of the Notice of Intent to Remediate a Dry-Cleaning Solvent Facility or Abandoned Site (NOI) provides a brief description of the proposed remedy, a web link to the complete NOI, and the dates and procedures for commenting on the proposed remedy. If you do not have access to the internet, we ask that you contact us to request a hard copy of the complete NOI.

If you have questions, please contact me at Sue.Murphy@ncdenr.gov or (919) 707-8354.

Sincerely,

Sue Murphy, DSCA Project Manager
Division of Waste Management, NCDEQ

Attachments: Summary of the NOI
cc: DSCA Site # DC650013 File

